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FARM FORUM TOPICS

Week of December 3 to December 7, 1928.

REGION 1.

December 3 - Advance Estimates of Livestock Receipts Aid Orderly Marketing.

December 4 - Selecting Poultry Breeding Stock.

December 5 - Home Mixed Fertilizers: Advantages and Disadvantages.

December 6 - Preparation for Ice Harvest.

December 7 - Wells and Their Care.

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FARM FORUM TOPICS

Week of December 3 to December 7, 1928.

REGION 2.

December 3 - Advance Estimates of Livestock Receipts Aid Orderly Marketing.

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December 5 - Home Mixed Fertilizers: Advantages and Disadvantages.

December 6 - Preparation for Ice Harvest

December 7 - Wells and Their Care.

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FARM FORUM TOPICS

Week of December 3 to December 7, 1928.

REGION 3.

December 3 - Advance Estimates of Livestock Receipts Aid Orderly Marketing.

December 4 - Selecting Poultry Breeding Stock.

December 5 - Home Mixed Fertilizers: Advantages and Disadvantages.

December 6 - How to Test Cows & Some Results of Testing.

December 7 - Wells and Their Care.

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FARM FORUM TOPICS

Week of December 3 to December 7, 1928.

REGION 4.

December 3 - Advance Estimates of Livestock Receipts Aid Orderly Marketing.

December 4 - Selecting Poultry Breeding Stock.

December 5 - Planting Vegetables for Early Spring Marketing.

December 6 - Preparation for Ice Harvest.

December 7 - Wells and Their Care.

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FARM FORUM TOPICS

Week of December 3 to December 7, 1928.

REGION 5.

December 3 - Advance Estimates of Livestock Receipts Aid Orderly Marketing.

December 4 - Selecting Poultry Breeding Stock.

December 5 - Important Forage Crop Diseases and Their Control.

December 6 - Preparation for Ice Harvest

December 7 - Wells and Their Care.

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THE FARM FORUM

Monday, Dec. 3, 1928

Livestock Meeting No. 10: Estimates of Livestock Market Receipts

Speaking Time: 9 Minutes

NOT FOR PUBLICATION

ANNOUNCEMENT: The Farm Forum will be in order! -- I said, the meeting will come to order!!--It may, if that Department of Agriculture man and his farmer friend will cut out that argument--We are going to discuss those advance estimates of receipts of livestock on the markets-- those government estimates-- All right, the rest of us can be quiet--

****

What of it?--Of course, they don't agree--That just proves what I said--

Beg pardon, Mr. Chairman------We were just talking about those livestock estimates. He claims the advance estimates don't agree with the actual receipts. I said, that was nothing against them. The differences between the advance estimates, and the actual receipts may show the reports are doing just what they are supposed to do----(As if interrupted) What's that?----You don't see how that can be, either?----

Well, it is this way. Those advance estimates of livestock receipts, at the various markets, are really reports of shippers' intentions to load. But when shippers get these reports, they often change their intentions. That is the big value of the reports.

As you know, those advance estimates of livestock at certain of the important primary markets are compiled by the Department of Agriculture. The Department gets information largely from telegraphic reports supplied the railroads. Every day, except Saturday, those estimates are compiled and sent out. They indicate the number of head of each of the chief kinds of livestock expected to reach market the next day.

Those estimates are sent out at Chicago at eleven a.m. They are sent out from other markets between eleven a.m. and 1 p.m. depending largely on when reliable data can be supplied by the carriers.

Of course, severe storms or washouts or railroad wrecks and other transportation delays may throw the estimates off somewhat, compared with the actual receipts. More often, however, the difference between the estimates and the actual receipts the next day comes from changes in shippers' plans.

For instance, if the advance estimates show that there are likely to be too big receipts of livestock at one market, the shipper often sees his chance. He diverts his consignment to other markets.

Or maybe his shipment of livestock hasn't started. He sees from the advance estimates that he is likely to run into a low market. He cancels the car order that has already gone in on the railroad's report, and has been included in the estimates. That means that there will be at least one carload less livestock on the market than the advance estimate report indicated there would be.

On the other hand, the advance estimates may show the probability of light receipts on the market next day. They may show that market conditions are likely to be favorable to sellers. That may lead the shipper to load immediately and rush stock to market,--stock that the roads didn't know about at the time the estimates were given out.

When shippers make changes that way, of course, the changes make a difference between the advance estimates and the actual receipts. By making those changes, however, shippers bring the supply more in harmony with the trade demands. They tend to keep down gluts and prevent shortages on the markets. In other words, those advance estimates make for orderly marketing.

Naturally, there is more interest in the advance estimates of receipts of livestock at Chicago than at any other market. Chicago is the biggest livestock market in the world. It is recognized as the basic market of this country.

Well, those advance estimates of what livestock will reach the Chicago market the next day are sent out at 11 a.m. to practically every other market. Those Chicago estimates are also immediately sent to producing sections throughout the country by radio, telegraph, and telephone. They are available in time for many shippers to make changes. They are available in time to materially influence the actual supply of livestock at Chicago and at other markets the next day. --------(As if interrupted from audience) What's that?--"Near-by?"-------

Yes---of course--The estimates have the most effect on comparatively nearby shippers. They have an especially important bearing on shipments originating in territory within about a 16-hour rail run of the market. Shipments from such comparatively near-by points are loaded around noon or later for the next day's market. That is, they are susceptible to the influence of the 11 a.m. forecast.

You can all see, then, how it is. The real test of the value of the advance estimates is not how near they agree with actual deliveries. The real test is how they even up the distribution of supplies of livestock, and so lessen the probability of local gluts and shortages, and the advances and breaks in prices which prove so disastrous to livestock producers and shippers.

There is no doubt that the advance estimates are worth more to producers and shippers than to anybody else. But they help all livestock interests, directly or indirectly. They help the railroads, the stockyard companies, and all the selling and buying agencies at the market centers, including wholesale and retail meat distributors. Yes, they also indirectly help the ultimate consumers of meat, and meat products.

You get some idea of the tremendous importance of orderly livestock marketing, when you realize the stupendous size of the livestock business. This year, livestock worth about three billion, five hundred million dollars will reach the public markets in the United States. And that doesn't include many millions of dollars worth of livestock which goes direct to the killers without going through the public markets.

In other words, more than $11,000,000 worth of livestock, not counting horses and mules, is received at our central markets every day of the year. That's about half a million dollars worth every hour. There is no wonder, that there is a widespread interest in, and need for, unbiased, dependable, timely market information to help producers and others market the most valuable farm product in this country.

These advance estimates of livestock receipts give such information. They are already a big help in the orderly marketing of livestock. But much more can still be done by more general use of this highly important service by livestock producers and shippers.

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ANNOUNCEMENT: This time next week our Farm Forum will take up the question of winter feeding and care of sheep. But we hold Farm Forum meetings every day except Saturday and Sunday. Tomorrow is our poultry day, and we will talk about selecting breeding stock.

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THE FARM FORUM

Tuesday, Dec. 4, 1928.

NOT FOR PUBLICATION

(Poultry Meeting No. 10: Selecting Breeding Stock)

Speaking Time: 9 Minutes.

ANNOUNCEMENT: Order! -- The Farm Forum will be in order! Is "Chick" Barnes in the house?---- I see him now---- Come on up here "Chick"-- You're supposed to lead this meeting. Tell us how to select poultry breeding stock---- What can you say about that?-----

****

Mr. Chairman --- And fellow members---

The most important considerations in selecting the breeders, are constitutional vigor, egg production, and standard qualities--- (As if interrupted from audience) --"Too early?"

No, sir! It is not too early. Don't get that notion in your head. You should select breeders for a poultry flock early.

No, no, don't wait --- and then rush things through just in time to get fertile eggs. Select vigorous, well-bred breeding stock, and select it carefully. Selecting breeders is one of those cases where you should make haste slowly.

That is, you will make progress and improve your chickens much faster, by selecting the cream of the flock for breeders. That's the way I do. There's no question, it is better to concentrate the good blood, instead of breeding indiscriminately, from the entire flock.---(As if interrupted from audience) "Not practical?"

You say, it is not practical for you to keep breeders separated from the rest of the flock?----- Well, in that case, you can band them now, and not separate them until two weeks before breeding time----

What's that? ---- "Hens or pullets?"

Why, hens, of course. Pullets should not ordinarily be selected for breeding. Then, too, the hens are in better breeding condition, just after molting, than are pullets which have been laying all through the fall.

However, some folks do use early hatched pullets, which have been through a fall molt. They make fair breeders. They are used a good deal in producing winter chicks.

But, as I started to say, when I was interrupted: The most important considerations in selecting the breeders are constitutional vigor, egg production, and standard qualities.

You can't get good results without constitutional vigor, regardless of how high the stock may be bred for production. (As if interrupted)----What's that?---- "How can you tell when a hen has a vigorous constitution?"

Well, one indication of vigor in breeding stock is good physical condition around this time of the year; that is, when the hens have wound up their laying year.

Other signs of vigor are a broad, deep head. And full, prominent eyes. And a body with good breadth and depth; with strong legs, well set apart.

I would never use small hens as breeders. The hens I select for breeders are the first to get off the roost in the morning and the last to go to bed at night. A bright red comb is another sign of health. But be sure to take into consideration, that combs are not so red nor so big now when the hens are still molting and haven't started to lay.----(As if interrupted) "What about the rooster," did you say?

One male is mated with 10 to 15 females, you know. So his selection is even more important than that of the hens. Select the most vigorous standard-size rooster you can get hold of. Select one with a prominent breast, and a well-developed back, and a deep, broad body. You want a big-framed, quick-growing rooster. But avoid a very early maturing, undersized male.

Small size is one of the signs of lack of vigor. So is late maturity. A long crow head and poorly developed comb and wattles also show lack of vigor.-- And, remember, be sure and keep a rooster in reserve. One to use in case of accident, sickness, or lack of fertility in your first selection.

Remember, too, that freedom from disease is absolutely essential. Maybe your chickens which were sick look all right. Maybe they seem to be entirely well, But, if they have been sick, don't use them for breeders. And, if you buy breeding stock, make sure it comes from a flock that is free from disease; one that is kept under sanitary conditions.

The way to improve egg production is to breed only the best-producing hens mated with the males out of high egg-producing stock. I banded my best pullets of last year for early maturity. And, in September and October, I banded my late-molting, best-producing hens.

Of course, you who do trap-nesting, can select your hens on actual egg records. You can use only males from the best hen in the flock. However, egg size is almost as important as the number of eggs. You may have to throw out some of your good producers for laying little eggs. That means, you will have to select enough breeders to allow for some culling of little-egg hens during the breeding season.

----"How many breeders?"--- That depends on your management. Under good conditions you can get 15 chicks from each breeder during the best part of the breeding season.

And, as I was saying, standard qualities are important. Select the breeding stock for breed type, size and color, just so long as you don't sacrifice egg production too much. You will make more money and take more interest in a uniform breeding flock of good standard qualities.

With a standard flock, you can often sell day-old chicks, breeding stock, and eggs to hatcheries. And you get more for them than you can by selling eggs and chickens for market.

The hens you breed from should be true to type and color of their breed and variety. Brassiness and off-colored feathers are serious defects. Other standard disqualifications are side springs on the comb; stubs or feathers on legs of a clean-legged variety; slipped wings; a crooked back or breast bone; and a decidedly wry or squirrel tail. Don't use chickens with such defects. All breeding stock should be free from deformities.

Since you use only a few males in the breeding flock, be even more careful in selecting them for appearance than you are with the hens.

Getting back to where we started, before somebody got me off my set speech, the most important considerations in selecting the breeders are constitutional vigor, egg production, and standard qualities.

******

ANNOUNCEMENT: At our next poultry meeting, this time next week, we will go into the question of costs in egg production. But we will have other Farm Forum meetings between now and then. Tomorrow is crops and soils day. Thursday is dairy day. Friday we will go into a real deep subject. Then again Monday, we will have a livestock meeting.

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THE FARM FORUM (Regions 1, 2 and 3) Wednesday, December 5, 1928

NOT FOR PUBLICATION.

Crops and Soils Meeting No. 10b: Home-Mixed Fertilizers

ANNOUNCEMENT: Some say mix your own fertilizers -- Others say buy them mixed.-- We've had quite an argument on that among our Farm Forum members. At the meeting today we have an expert from the United States Department of Agriculture ----- How about it Mr. Mixon? --- Can you settle that argument?

****

Of course, home mixing of fertilizers has disadvantages. It may be hard to get the materials. You may not have time to do the mixing. Or, you may not have time to read up on the subject -- so as to know what you are doing and how to do it.

Then, too, you may not have the cash available to buy materials. Or you may take mixed goods, because you can't get finely ground material.

And, I'll say this for certain, if you are inclined to be careless and not to do a thorough job of mixing, it will probably pay you better to rely on the factory. With its power machinery, the factory can certainly do a satisfactory job of mixing.

However, there are advantages in mixing fertilizers at home. One of the reasons for home mixing, is to save money. The saving often amounts to over $5 a ton. It may run considerably higher. Cost of fertilizer is an important element in crop production. It is especially important on such special crops as potatoes, where you may use a ton or more of fertilizer to the acre.

But the cost is not the main thing. There are other advantages which are even more important than the money.

One thing is, that the study of the various fertilizer materials and their mixing will usually lead to more careful and more successful use of fertilizers. It may also increase care along other lines; such as proper drainage, and cultivation, and the building up of the soil by use of green manure crops. Commercial fertilizers, remember, are only one item in the big problem of getting the most from the soil with the least cost of money and labor.

Now then, this is an individual problem for each of you. Whether or not to "mix your own" at home will depend on conditions. If your time is all taken up, it may not be economical to do your own mixing. But many farmers have time in winter which they can use to advantage this way.----- (As if interrupted from audience) --- Pardon me? --- What's that? --- "That time is worth something, though," you say?

Yes, that's true. But it would hardly be fair to charge the maximum price per hour, in figuring whether or not it is economical for you to mix at home. That is, if the time would be otherwise wasted.

One of the advantages many farmers find is the ability to use local products; stuff they can get more readily or more cheaply. For example, around Milwaukee it might be satisfactory to use milorganite which is turned out by the City of Milwaukee from their sewage disposal plant. In the Cotton Belt, damaged or low grade cottonseed is sometimes available which it would not pay to ship or which would be worthless for use in feeding. In New Jersey greensand marl might be used as a source of potash if you could get it locally at a low enough price. Finely ground phosphate rock or colloidal phosphate, where it is present, might be used in Florida and Tennessee.

Those are just examples. In most every locality there is liable to be a source of fertilizer material available in small quantities. In some cases it may be had for the hauling. Dried chicken manure makes a very satisfactory base for either fertilizer or compost. It is to be had on most every farm;

As many of you may remember, we used to have to mix our own fertilizer to be certain of getting a good fertilizer. Now, however, various States exercise control over fertilizers. We are protected against fraud. That, and the high standard of business ethics in the fertilizer trade these days,make you practically sure to get the number of pounds of nitrogen, phosphoric acid and potash you have ordered.

But you can't always get what you want. Soils and crops and climate are very different. What's a good fertilizer one place may be a poor one in another. The fertilizer manufacturer finds it better business to make as few mixtures as possible. He standardizes on a few formulas. That cuts down the cost. It should work to the benefit of all concerned. But it doesn't always work that way.

In many instances, the manufacturer really decides that the farmer must take a mixture he believes is not the proper one. In a top dressing mixture the nitrogen perhaps should be all quickly available. Any considerable amount of slow-acting nitrogen might be out of place. On the other hand, on sandy soils in Florida, subject to leaching and continuous bacterial action, organic fertilizers and dried animal manure may be essential.

Until manufacturers are willing to state what materials go in the mixture, and the number of pounds each, there will always be farmers doing home mixing; so as to be sure they can get what they want in the bag. There is some reason for that attitude, too.

They may get good results with a fertilizer this year. When they go back next year and buy a mixed goods with the same tag, the mixture inside may be quite different, even though the label on the outside of the bag is the same.

The labels do not tell the whole story, Chemists can't take a fertilizer mixture and tell the kinds of material in the bag and their amounts. Until you can tell what is in the bag, you, who do your own mixing, will be safer in getting what you want than the man who buys his ready-mixed.

Practically all the experiments made in this country by the Federal Government and the various State Experiment Stations are made with home mixed materials or simple materials. So if the State Experiment Station or the Federal Government makes a report on fertilizer tests, the only way you can be sure of trying out their recommendations is to do as they do. That is, use simple materials or make a mixture of standard materials yourself. That's another big advantage in home-mixing.

However, any of you who want to know about home mixing should take the matter up with your County Agent, or your State Experiment Station, or the Federal Department of Agriculture. They will be glad to help. And you will find it always pays to compare the prices of factory mixed goods with the same amount of nitrogen, phosphoric acid, and potash bought in the form of materials. Then you can use your own judgment as to the proper fertilizer to buy.

****

ANNOUNCEMENT: Tomorrow will be dairy day in our Farm Forum. Friday we'll look into that deep subject of Farm wells. And then, next Monday our meeting will discuss winter feeding and care of sheep. Tuesday, will be poultry day. We expect to talk about costs in egg production.

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THE FARM FORUM Wednesday, December 5, 1928

NOT FOR PUBLICATION

(Region 4)

Crops and Soils Meeting No. 10c: Our Vegetable Industry.

ANNOUNCEMENT: The Farm Forum will be in order! -- We have with us today a specialist from the United States Department of Agriculture. He is going to tell this meeting a few things about our early spring vegetable business. When he says the western states contain some of the real garden spots of the universe, he knows whereof he speaks --- All right, Mr. Gardener!

****

Anybody who discusses the vegetable industry in the West, has to "know whereof he speaks" -------

In other words, he has to"know his onions." -------

For we have some great onion raising country! In southwest Texas, we have the big Bermuda business of early spring onions. And, in recent years, in the southwest and up through Utah, Nevada, Idaho, Oregon, and Washington, we have developed the extensive production of those big, straw-colored Valencia or Spanish onions for early summer.

We import large quantities of Valencia onions from Spain. But it looks as though we will soon be able to take care of our own needs ---- especially in the West.

Why, when I was a boy, nobody dreamed that the territory along the Rio Grande River would ever be a truck-garden. We had no idea, that, locked up in the soil of that "range" territory, was the secret of producing thousands of carloads of the most delicious, mild-flavored Bermuda onions grown anywhere on earth. And yet, not even the enchanted isles of the South Seas could produce a product superior to that we grow under irrigation in Texas.

The Bermuda onion is strictly a winter crop and is ready for market in the early spring. The seed was planted in open beds about the 10th of October and the small plants transplanted to the fields in late November and early December.

The seed may be sown in a special bed and the seedlings transplanted or it can be sown directly where the crop is to be grown. A more uniform product, however, can generally be secured by transplanting. Valencia onions produce enormous crops and require rich soil. Composted sheep manure from the sheep ranches is one of the best fertilizers for the growing of both Valencia and Bermuda onions. Valencia onions are grown to highest perfection under irrigation, and the beds should be carefully leveled so as to get a uniform distribution of the water as any high or low spots are certain to produce an irregular crop. The Valencias grown in the southwest under irrigation are of high quality, and none that ever came from old Spain have anything on them when it comes to flavor.

But onions are not the only thing. There are potatoes, too. We grow early potatoes extensively. Of course, we'll have to admit, we grow them too extensively some years. Yet, taken year in and year out, potatoes are a good staple early crop in the southwest.

You'll notice I said early crop. But if you don't plant early you can't expect to harvest early. If you don't have your potatoes early you lose the benefit of the best market. If you potato people haven't arranged for your seed, you had better do it right away. Have the land ready too. You want to avoid undue delay when planting time comes.

The production of early peas for the northern market is another comparatively new enterprise for the southwest. Shipping records show that these peas are moved from south Texas territory during December, January, and February. Seeds are planted during the early fall, the plantings extending over a period of two months. The mature peas are then ready for shipment about holiday time or a little later. There is nothing particularly difficult about the growing of peas, except to have the land in a good state of cultivation, use good seed, and where rainfall is insufficient, to use moderate irrigation. These peas are all grown in large quantity and shipped in refrigerator cars.

In some of the more favorable sections, spinach, lettuce, carrots and beets are grown all winter. In the less favorably situated parts of the country, from a climatic standpoint, these crops are planted in the early spring.

In the lower Rio Grande Valley, we have the production of great quantities of spinach, and cabbage, and beets, and carrots, and all sorts of vegetables which are so much in demand in the late winter and early spring.

Why, most people never heard of a 100-acre plantbed! But that's what we have in southwestern Texas, where the soil and climate is favorable for the growing of millions upon millions of onion, cabbage, tomato, and

other plants for shipment by the carload to the north. In the north those plants are planted for the regular early summer crops. East Texas produces hundreds of carloads of early tomatoes, and right here, let us remind you that good plants and well prepared soil are the foundation for a good tomato crop. Nice, blocky plants from the coldframe give the growers a running start for a profitable crop.

But while we sing the praises of the big truck gardens in the favored spots, let's not forget our home garden.

I hope you have plowed, and leveled, and manured your garden this fall. It is well to plant onions, peas, lettuce, spinach, and carrots just as soon as you can. And you should be ready to plant a general line of crops as soon as the season opens.

Folks who live in dry-land country know the advantages of plowing their gardens in the fall and leaving them in a rough condition over winter.

Prepared that way, the gardens will catch every drop of rain that may fall during the winter. They will also absorb the melted snows of winter. That additional moisture helps, and helps very materially in growing good spring and summer garden crops.

The main thing, however, I should like to impress upon every person, who tries to grow fruits and vegetables, either for market or for home, is to take advantage of every practice that will improve both the quality and yield of your crops.

And, as I suggested before, plant early whenever you can, and pay special attention to advance soil preparation.

****

ANNOUNCEMENT: This time next week we will have a talk on the U.S. Wheat Crop in the World's Market. Tomorrow, however, our Farm Forum will discuss preparation for the ice harvest. Friday, we will have an engineer talk on wells. Then at our next Monday meeting, we will take up the winter feeding and care of sheep. Tuesday is our poultry day. Next Tuesday we will talk about the costs in producing eggs.

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THE FARM FORUM (Region 5) Wednesday, December 5, 1928.

Crops and Soils Meeting No. 10d: Alfalfa Diseases

Speaking Time: 9 Minutes.

ANNOUNCEMENT: The Farm Forum will be in order! ---- We have with us today a specialist from the United States Department of Agriculture. He is going to talk about alfalfa diseases. Many of us farmers here on the Pacific Coast have had trouble, from the disease they call "bacterial wilt" --- Maybe this Department expert can tell us how to get rid of that trouble ----- How about it, Doctor? ----------

---ooOoo---

No -- no. That's asking a little too much. At the present time, we don't know how to keep bacterial wilt out of alfalfa fields, entirely. As yet, there are no control measures, which can be counted on to clean out bacterial wilt completely, from an alfalfa field, once it has gotten in.

But there are certain things you should do. There are certain things which will keep down your losses.

For instance, there is less probability of spreading bacterial wilt, if you do the mowing when the plants are dry.

Why that is so, is easy to see. The germs of bacterial wilt are carried about by the soil. They enter the alfalfa through wounds in the roots. The germs, or bacteria, pass up the stems.

Now then, when the mower cuts through those diseased stems, the bacteria get on the knives of the mower. Those bacteria are then wiped off on the freshly cut stems of plants nearby. If conditions are suitable, they can pass down these stems into the roots.

However, the bacteria may stay alive in dry pieces of stems for many months. So don't take disease-carrying stems to new fields, either mixed with uncleaned seed or mixed with manure as unrotted refuse from alfalfa hay.

The worst outbreaks of bacterial wilt however, have happened in fields where bacteria were washed in from diseased plants in an old field. Irrigation water can also spread the disease to new seedlings. Always be careful in disposing of excess surface water. See to it that the water doesn't pass from a field having diseased plants to one not infested. ----- (As if interrupted from audience) What's that? --(Pause) "What would I do about the badly affected field?"

Why, plow badly affected fields to kill all alfalfa plants. Then rotate the field, until the killed alfalfa is entirely decayed, before you reseed to alfalfa.

I know, you may not like to do that. And, in fact, it seems that the only solution of the problem which will be entirely satisfactory, to the grower, will be the development of a wilt-resistant variety of alfalfa. Certain State experiment Stations and the United States Department of Agriculture are working to develop such a variety now. In the meantime, however, the best way to fight alfalfa wilt is to prevent its spread as much as you can, in the ways given above. ----- (As if interrupted from audience) Yes? ----- "How can you tell when plants are diseased?"

Well, that's one of the big troubles. Wilt infected plants often live a year or more, before you notice anything wrong with the foliage. You see, bacterial wilt is primarily a trouble affecting the underground parts of the alfalfa. Shortly before the plant dies, you get the evidence in the stems and leaves.

Occasionally, during hot weather, in the spring or summer, the plants wilt and die right away. More often, however, the alfalfa doesn't wilt, but the stems are more or less shortened, the foliage is usually pale green or yellow, the leaves are often very small and their edges often get brown in hot weather. After each cutting, the new stems usually grow much shorter than the ones before. That keeps up until the plant dies.

But before you notice the effect on the leaves and stems, the bacteria are spreading in the crown and roots. They cause a yellow discoloration. You can easily see it, if you dig up a root and cut it open. In the cross section of the root, that discoloration appears in the form of a circle, just under the bark.

The width of the circle depends on how long the plant has had the disease. You can see the discoloration even more easily than in the cross-section, by stripping back the bark. As the plant dies, gradually more and more of the wood takes on that yellowish color. Eventually, all the woody part of the root gets that way.

Ordinarily, bacterial wilt doesn't hurt a field of alfalfa much the first year or two. In some cases, however, 75 per cent of the plants in a one-year-old stand have the wilt disease.

During the second summer, the disease usually begins to show up in scattered spots in the field. It keeps on spreading. Frequently by the end of the third to the fifth year, the stand is no longer worth keeping up. In many sections, bacterial wilt is the chief cause of the early thinning out of alfalfa stands. ----(As if interrupted from audience) How's that? ---(Pause) Stems? ---- You mean that rot of alfalfa stems, at the ground? The one in which a cottony, snow-white mold shows up on the diseased parts? ------ Irregular black bodies as big as grains of popcorn form in protected places on the stems ----- That is called sclerotinia stem rot.

Sclerotinia stem rot doesn't often do much damage to alfalfa. It is most destructive under moist conditions. Drainage to keep down moisture will help keep down sclerotinia stem rot -----(As if interrupted from audience) What?-"Crown wart?"------

The most practical way to control crown wart is by crop rotation. Crown wart, you know, is caused by a fungus which attacks the young buds about the crown. It causes the buds to develop into big galls.

Those young galls appear in the early spring. Usually they reach their full development early in the summer. They produce the spores or seed which cause the crown wart disease. But crown wart doesn't ordinarily do much damage.

Different fungi cause a number of leaf diseases of alfalfa. They show up in more or less circular or longish spots on the leaves. When the spots get very plentiful, as they often do, especially when the humidity is high, many leaves fall off prematurely.

In a case of that kind, where the leaves are badly spotted, it is often best to cut the hay. Cut it before too many of the leaves are lost. Whether or not the diseases will show up on the new crop depends a good deal on weather conditions.

******

ANNOUNCEMENT: Next week at this time, we will have a talk about over-production of fruits and vegetables. Tomorrow is our dairyman's day, and Friday we will have a farm engineer here to talk about wells. Monday our Farm Forum will take up the question of winter feeding and care of sheep.

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UNITED STATES DEPARTMENT OF AGRICULTURE

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THE FARM FORUM Thursday, December 6, 1928.

Regions 1, 2 and 4

Dairy Meeting No. 10a: Preparation for Ice Harvest

Speaking Time: 8 minutes

ANNOUNCEMENT:-- This is dairyman's day in our Farm Forum ---- As you men know, it is getting along toward harvest time now ------ What's that --- No, I didn't get my dates mixed --- It is ice harvest, I'm talking about ----- Or rather, what our Dairy Farm Engineer is going to talk about ----- Tell us about it, Mr. Engineer ----

****

Yes, it is time to begin to prepare for storing ice.

I suppose most of you have ponds, or lakes, or streams from which you can get ice. Some of you who didn't have them, have made them; either by diverting a stream into an excavation or damming the stream where the land is low.

In any case, the water for the ice supply should be free from contamination. That's especially important, if you expect to use any of the ice directly in drinks or foods.

Streams and lakes are often polluted. But I suppose, you've investigated that. And, of course, you've protected the water supply from drainage from the barnyard or the manure pile or the like.

Grass and weeds often grow in ponds and sluggish streams. If you haven't already done so, clear out such growth as that. Otherwise, the grass and weeds may be frozen in the ice.

And keep the surface of the ice clear of snow. Snow acts as an insulation. It holds back freezing. You can melt off the snow by wetting down the surface or you can scrape it off. Most people scrape it off. If the ice is thick enough to bear the weight of a horse, you can easily get the snow off with a horse-drawn scraper.

On small ponds, you can just scrape the snow on to the shore. On big ponds and lakes that may not be practical, especially if the snow is deep. You may have to scrape the snow in windrows.

In running those windrows, however, run them at right angles to the channel you are going to cut, to bring the ice to shore. By doing that, the ice between the windrows can be cut back any distance from your main channel. If you run the windrows parallel to the main channel, you can cut only the ice between the channel and the windrow before you open up a new channel.

Mark off the ice for cutting, so that the cakes will be rectangular and easier to pack ---- (As if interrupted from audience) What's that? "How do you mark it?"

Well, success in marking depends largely on getting the first line straight. After you have cleared off the snow, and the ice is thick enough to cut, put a stake at each end of the proposed line as a guide. Then line up a straight board with the two stakes. Then run the cutting tool or a hand plow along the edge of the board. Push the board forward and line it up again. Keep that up until you have covered the entire distance between the two stakes.

After your field of ice is marked off in one direction, be careful to get the cross-lines at right angles to the first lines. You can make a square, by nailing three boards together, which will help get the cross-lines at right angles.

When you've marked off the field, cut out a strip of ice the width of the cake you want. Force it under the surface of the ice field. In that way, you can open up a channel to the landing. It is better to float big cakes to the landing and cut them into the smaller cakes there. (As if interrupted from audience) What? --- "What tools do you need?"

Not many, on the average farm, where you don't have much ice to harvest. Two saws, two pairs of tongs, two ice hooks, one pointed bar or splitting fork, a hand marker, and a straight board for marking, are all you need. (As if interrupted from audience) "How much?"

You mean, how much ice you should cut? --- Well, if you just cool cream, you should store at least one half ton of ice for each cow in your herd. If you expect to cool milk, you'll need to store one and a half tons of ice per cow. That's allowing a margin for household use.

Of course, the size house you will need to store the ice depends on the number of cows you have. You can figure, however, that a ton of ice requires about 45 cubic feet of space.

Whenever practicable, the ice house should be built in the form of a cube. Melting, you know, is in proportion to the amount of surface exposed to the air or to the packing material.-------- (As if interrupted from audience) ----- What? ---- "What is the best kind of ice house?"

Well, that depends a great deal on local conditions; on the size of the house, and how hard it is to get ice. Where natural ice is plentiful and can be harvested and stored cheaply, an inexpensive wooden house is usually all you need. In a wooden ice house, dry sawdust or mill shavings are usually used for insulation. --(As if interrupted) Yes ------- Yes ---- That's true. There is certain to be more or less melting. And that will cause moisture to collect on the walls and ceiling and make the wood rot.

For that reason wooden ice houses should have some means of controlling ventilation. A better type of house is one equipped with commercial insulation

and covered on the inside with a cement finish. The ice chamber of a house of that type doesn't need any ventilation. However, if you want to know about different types of ice houses --- or in fact, anything about storing ice, why don't you write for Farmers Bulletin 1078-F, on "Harvesting and Storing Ice on the Farm."

And, of course, you want to locate the ice house in a shady place, where there is good natural drainage. Good drainage is very essential. If the water from the melting ice is not carried off, melting will go on even faster.

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ANNOUNCEMENT: The number of that bulletin on "Harvesting and Storing Ice on the Farm" is Farmers' Bulletin No. 1078-F. You can get it by writing to Station_____ or by writing direct to the United States Department of Agriculture. And while you are about it, you might as well ask for your copy of that Radio Record Book. It is a handy blank book in which to enter bulletin numbers and the like.

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THE FARM FORUM (Regions 3 and 5) Thursday, Dec. 6, 1928.

Dairy Meeting No. 10b: How to Test Cows.

ANNOUNCEMENT: These days, dairymen can't afford to keep low producing cows. But a lot of us don't know exactly whether some of our cows are paying or not. For that reason, we've asked a specialist from the United States Department of Agriculture, to tell this Farm Forum meeting how to test cows-----
All right, Mr. Tester -------

****

Here is the most practical way to test cows --- in a dairy section.

About 26 of you dairymen form an association. Hire a tester. Have him visit each member's farm once a month. On that visit, he is to weigh the milk and feed. He is to make butterfat tests. He is to figure out the value of each cow's milk, and the cost of feed. From that, he is to figure out, the profit or loss of each cow in the herd.

All those figures, for each herd in the association, together with the kinds and prices of feed used, and the freshening and dry dates of the cows, he is to set down in a special ledger. He leaves that record book at the farm, and goes on to test the cows at the next member's farm.

Of course, those figures are only a means to an end. Their value lies in pointing the way. They point the way to the culling out of low producers. Not only that, but they also point the way to more intelligent feeding, and better breeding practices. And a first-rate tester, trained along dairy lines, can give a lot of help in suggesting how to do those things.---(As if interrupted from audience) What say? ---- "Does it pay?" --- "Is it practical?"

Well, the best answer to that is the way organized testing has spread. There are more than one thousand of these dairy-herd-improvement associations, as they are called, in the United States now. Twenty-five thousand dairymen, who own 450,000 cows, belong to such organizations.

Just to show you how they help the dairyman! I know one member of a dairy-herd improvement association, who changed his feeding methods on the advice of the tester. He changed from corn alone to a ration of ground corn, ground oats, and soy beans.

As a result of that change in feed, his herd produced 70 per cent more milk and 77 per cent more butterfat. At 50 cents a pound for butterfat, and 40 cents a hundredweight for skim milk, that change in feeding brought in $70 more a month.

That is how it works on feeding. Take culling, for instance. In another association, I know a member, Ed Harris is his name, who culled out 19 boarder cows from his herd of 42 head. Here is how that paid him. His returns, over and above cost of feed, went up from $46 a month to $281 a month. By that culling, he cut the cost of feed per pound of butterfat by 17 cents. He cut the cost of feed per hundredweight of milk 30 cents.

Culling and intelligent feeding enable a dairyman to build up a high-producing herd --- to a certain point. To go beyond that, he has to breed his cows for high production. The way to do that is to use a good bull. Testing the production of the daughters of a bull measures his value.

I recently saw the records of an association which showed that one member had a bull with 12 daughters. Each of those twelve cows produced, on the average, 2,687 pounds of milk and 125 pounds of butterfat, more than their mother.

If that extra butterfat, produced by those twelve daughters, was sold at 45 cents a pound, it would amount to $645 a year. In other words, use of that particular bull increased the income in that herd by $645, or enough to pay the cost of testing for years to come. ---(As if interrupted from audience) Beg pardon --- Did you have a question? --- (Pause) Yes ---- Oh, yes.

Sure the individual dairyman can keep his own records ----- but he is less likely to do it. The pressure of other work is likely to cause him to neglect testing. The best way is in the association. -- (As if interrupted) "Not enough dairyman in your section?"

Well, of course, in that case, you had better do it yourself. The work really doesn't require a great amount of skill. In keeping the records, you should set down the daily weight and monthly value of milk and butterfat. Also the monthly quantity and cost of the feed used. Then you can figure the monthly and annual income over cost of feed for each cow in the herd.

The equipment needed for testing is simple. Of course, you want a simple scales to weigh the milk and feed. Then you need a Babcock tester to get the quantity of butterfat produced. The set of scales, the Babcock testing outfit, and sheets for recording figures is practically all you need for testing work. They don't cost much. The rest is simple addition, multiplication, and subtraction of figures. But, as I said, the association method is better. If you want detailed information about the organization and operation of dairy herd-improvement associations, the Bureau of Dairy Industry of the United States Department of Agriculture will furnish it, or you can get it from your state extension service.

The average production per cow in this country is estimated as 4,500 pounds of milk a year. But the average production, per cow, in the dairy-herd-improvement associations of this country is 7,410 pounds of milk a year.

Now, if all the cows in the country were as good producers as those in the herd-improvement associations, we would have produced the same amount of milk with ten and a half million fewer cows or little more than half as many as we used. And just think of the saving in feed! -- To say nothing of the saving in

work. --- (As if interrupted from audience) ----- What say? ----- "The high producers would have taken more feed?"

Undoubtedly, they would. It takes more to feed a cow producing 7,410 pounds of milk than one producing 4,500 pounds. But on all the cows in the country we would have saved $337,000,000 worth of feed. But that's not all. From that smaller number of cows we would have received $40,000,000 more income over cost of feed than we did. In other words, the high producing cow is the most profitable cow.

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ANNOUNCEMENT: Next week at this time our Farm Forum will take up questions in connection with the raising of the dairy heifer. Tomorrow, however, we will talk about wells. At our Monday meeting, we will discuss winter feeding and care of sheep, and on Tuesday, our poultry day, we will talk about costs in egg production.

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THE FARM FORUM Friday, December 7, 1928.

(NOT FOR PUBLICATION)

Farm Engineering Meeting No. 4: Wells and their Care

ANNOUNCEMENT: The Farm Engineer from the United States Department of Agriculture will address our Farm Forum meeting today. He has a deep subject. He is going to talk about "Wells and their Care" --- He's going to tell us where the well should be located for one thing --- Isn't that right, Mr. Engineer? -------

****

Well --- well ----- well! -------

Speaking of locating the well,farmers often ask me how near a sink drain, or a barn yard, or other source of filth, a well should be located.

In answer to that I always tell them the story of the man who advertised for a coachman.

Each man who applied for the job he asked this question: "How near the edge of a cliff can you drive my coach?"

The first man who asked for the job said he could drive within two feet of the edge. The second applicant boasted that he could drive fast along the cliff and keep the wheels of the coach within less than a foot of the edge. That was getting pretty close.

But when the third applicant was asked if he could drive closer than that, he said: "No sir, not if there was any room on the other side! I'd keep as far away as possible." He got the job.

That's the way it is with a well. Don't try to see how near you can locate it to a source of filth, but how far away. Locate a new well as far as you reasonably can. A good well is a safe well. To be safe, the well should be above and outside the path of impure drainage, either on or beneath the surface of the ground. Pollution doesn't travel very far up-hill. But, with the groundwater, it may travel considerable distance down-hill. Many wells are located in low ground. They are subject to surface wash or to flooding by swollen streams.

Avoid such locations. Surface waters from farm land are nearly always polluted. One dose of such pollution may cost the health or the life of you or some of your family. Farmers' Bulletin 1448-F on the "Farmstead Water Supply" will show you how to avoid such locations.

And, another thing. Make sure the platform and the curb or casing down at least ten feet is tight enough to keep out all animal life, and all dirt and dirty water.

As many of you have found out, many well waters develop disagreeable odor and taste at times. That happens more often in dug wells than in driven or cased wells. It usually happens in the summer when the well water is low and when there are plenty of little animals around. In most cases, the trouble is due to the death and decomposition of worms and reptiles, or small animals which have crawled or falled into the well.

They get in through little openings you may not notice. Such things as poorly jointed stone and brickwork, warped and shrunken wood covers, and cracked concrete platforms let them in.

Burrowing animals also sometimes work their way under apparently tight platforms. They get in the well through a crevice between the curb and the platform. In fact, leaves, twigs, and worms, and snails and fish have been found in wells under circumstances which would indicate an underground passage-way from the well to a stream or other source at the surface.

I examined a well not long ago. The water smelled and tasted bad. But the well was nicely located. It was also apparently tightly covered. However, we found 16 live frogs and 6 more or less decomposed. After we had cleaned the well and pumped out the water several times, the supply was satisfactory. (As if interrupted from audience) --- Did you have a question? ----- (Pause) "What's the best thing to use for the curb of the well?"

Wells are usually curbed with brick, or stone laid dry. But any masonry should always be laid in good Portland cement mortar; and with full flush joints. Don't use wood for the curb. It soon rots out. Good concrete or vitrified clay pipe, such as is used for sewers, makes a first-class curb.

And, please bear this in mind. The upper ten feet of the well wall should have tightly cemented joints so as to keep out animal life, and roots and dirty water. And the curb should come up at least a foot above the natural ground level. On top of the curb, you should build an absolutely tight platform. Concrete reinforced with a little steel to prevent cracking is best.

Both the platform and the earth filling around it should be graded, to shed rain water and pump drippings away from the well. If you expect to have a pump on the platform, make the connection between the pump and the platform water-tight, by use of bolts and a gasket or some other way.

The platform should have a tight-fitting iron or concrete manhole so you can get down in the well. It is a good idea to set the top of the manhole frame two or three inches above the platform, and have an overhanging cover so as to keep out the dirt and dirty water.

Even at best, however, wells need cleaning occasionally. More or less mud and clay and silt and fine sand are carried in with the ground water. Usually dust and other foreign matter gets in at the top. Sometimes years of accumulation blankets the bottoms of wells so thickly as to interfere with pumping or to hurt the water supply.

But do be careful before going in the well. Be sure there's no danger of poisonous gas or a cave-in. If it is safe to go down, you can use a ladder or lower yourself on a swing such as steeple-jacks use. Scrub the curb from the top down with wire or other stiff brushes. Then rinse the walls thoroughly. After that, pump the water as low as you can, and scrape all the mud and moss and other trash into pails and take it out. Then, after cleaning thoroughly, let the water rise and pump it out fast. Repeat that two or three times. That often results in a freer yielding well and more wholesome water. --- (As if interrupted from audience) How's that? --- "How about drilled wells?"

Well, driven or drilled wells are best cleaned by a well-drilling concern which has the necessary equipment. The simplest way is to use a bailer or sand bucket fitted with a flap or ball valve at the bottom. The water and loose mud and sand run in as the bailer sinks, and when it is hauled up the valve closes. But you can find out more about that from that bulletin I mentioned.

Remember, however, what we said about locating a new well. Locate it on clean ground above or a good distance to one side of any probable channels of impure drainage. And make the platform and upper part of the curb so tight small animals can't get in.

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ANNOUNCEMENT: That bulletin was Farmers' Bulletin 1448-F. It is called "The Farmstead Water Supply." You can get it by writing to Station_____ or direct to the United States Department of Agriculture, for it. And while you are about it, ask for your copy of that Radio Record Book. It is a handy blank book for noting down bulletins, ration mixtures and such, which you often get by radio.

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FARM FORUM TOPICS

Week of December 10, 1928 to December 14, 1928

REGION 1.

December 10 - Winter Feeding of Sheep.

December 11 - Cost Factors in Egg Production.

December 12 - Where the Oats Crop Goes.

December 13 - Raising the Dairy Heifer.

December 14 - Selective Cutting in the Farm Woods.

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FARM FORUM TOPICS

Week of December 10, 1928 to December 14, 1928

REGION 2.

December 10 - Winter Feeding of Sheep.

December 11 - Cost Factors in Egg Production.

December 12 - Where the Oats Crop Goes.

December 13 - Raising the Dairy Heifer.

December 14 - Selective Cutting in the Farm Woods.

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FARM FORUM TOPICS

Week of December 10, 1928 to December 14, 1928

REGION 3.

December 10 - Winter Feeding of Sheep.

December 11 - Cost Factors in Egg Production.

December 12 - Over-Production of Fruits & Vegetables.

December 13 - Raising the Dairy Heifer.

December 14 - Selective Cutting in the Farm Woods.

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FARM FORUM TOPICS

Week of December 10, 1928 to December 14, 1928

REGION 4.

December 10 - Winter Feeding of Sheep.

December 11 - Cost Factors in Egg Production.

December 12 - The U. S. Wheat Crop in the World's Market.

December 13 - Raising the Dairy Heifer.

December 14 - Christmas Tree Sales on the National Forests.

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FARM FORUM TOPICS

Week of December 10, 1928 to December 14, 1928

REGION 5.

December 10 - Winter Feeding of Sheep.

December 11 - Cost Factors in Egg Production.

December 12 - Over-Production of Fruits & Vegetables.

December 13 - Raising the Dairy Heifer.

December 14 - Christmas Tree Sales on the National Forests.

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THE FARM FORUM

Monday, December 10, 1928.

(NOT FOR PUBLICATION)

Livestock Meeting No. 11: Winter Feeding and Care of Sheep.

ANNOUNCEMENT:------Find seats, please! --- It's time to start the meeting --- Mister Mac, come on up here! --- Suppose you tell this Farm Forum meeting how you do it ---------- What? --- "Do what?" Why, how you feed and care for your sheep in the winter, of course ---------- Come on, give me your hand. I'll help you up -------

******

W-well ---now. Speaking of sheep, I generally let mine forage in the stubble and stalk fields, in the fall. I depend on stubble and stalk fields mostly for feed for the breeding flock; until the rains damage the stubble for feeding.

The fence strips in the plowed fields also give good grazing for a few days. I always leave the clover or grass pastures until the stubble and stalk fields have all been used. In the late fall, I let the sheep in on the green rye pasture. Rye not only gives considerable succulence, but it gives the sheep exercise. ----- (As if interrupted) Yes? --- Sure, that is good in the South.-------

Did you all hear that? This man down here says in his section he has found velvet beans a big help in carrying the flock into January.

In all this feeding business, however, remember the old saying: "The good shepherd knows his sheep". The best way I know to know 'em is to feel 'em. I trained myself years ago to read the condition of my sheep by feeling the bone of the loin or the back.

That's especially important with the ewes. At no time while they are in lamb should ewes be allowed to lose weight.

Some folks wait too long to start feeding, especially in open wet falls. A rank growth of soft grass may look like good feed, but the real way to tell what the sheep need is to know their actual condition -----(As if interrupted) Hold up there, brother, I'm coming to winter feeding now. I've just been grazing my way into the subject. ----------

Of course, winter feeding should be such as will produce the most vigorous lambs and, at the same time, keep the wool in good condition. Legume hays, straws, and cornstalks usually form the main part of economical winter rations.

If you have good quality clover or alfalfa or cowpea hay, you can use that as the sole feed until near lambing time. -----(As if interrupted) What say?----- "How much?"

From 3 to 3 1/2 pounds of good legume hay is enough for ewes weighing less than 150 pounds. Oat and wheat straws are better than rye or barley straw. The beards of barley straw are liable to start trouble.-----(As if interrupted) What say? --- No.

No, timothy hay is not good for sheep feed. You can use cornstalks as part of the roughage. Put them where the ewes can eat off the leaves. If the ration is made up largely of cornstalks or straw, you should use a nitrogenous concentrate.

Then, too, it is a good idea to feed succulent roots or silage. That will help keep the ewes in good health. By using silage, you can often cut the cost of the ration.

But be careful about feeding silage. You cannot safely feed silage without some hay. And you should feed the sheep only silage from well-matured corn. Never, never, never feed spoiled or frozen or moldy silage. I'd never feed any of my sheep more than 3 pounds of silage a day.

And I'd be careful in feeding roots, especially turnips, to bred ewes. I'd feed turnips very sparingly until after lambing.

Here is a ration which will give ewes of from 120 to 145 pounds in weight what they need in a day:

2 pounds alfalfa or cowpea hay; 2 pounds of corn silage; and 1/2 pound of shelled corn.

Did you get that? Let me repeat it. 2 pounds either alfalfa or cowpea hay; 2 pounds of corn silage; and 1/2 pound of shelled corn.

Or, here's another good ration. 2 1/2 pounds of alfalfa; and 2 pounds of silage.

Or maybe you would prefer to use this one: 1 pound of oat straw; 2 pounds of corn silage; 1/4 pound linseed meal; and 1/2 pound shelled corn.

Did I go too fast? I'll give it to you again: 1 pound of oat straw; 2 pounds of corn silage; 1/4 pound linseed meal; and 1/2 pound shelled corn.

Where the ewes can run on fall wheat or rye during the winter months, the pasture should be supplemented by some kind of concentrated feed. Of course, you don't want to use silage or roots when the pasturage is soft and green.

A half pound of cottonseed meal has all the protein in it that the ewes in lamb need. A quarter of a pound of cottonseed meal a day and a selection of other feeds would be better than a ration with more cottonseed meal.

And another thing, if you let the sheep get their fleeces soaked with rain or wet snow, they are liable to have colds and pneumonia. On the other hand, you don't have to worry about dry snow. Ewes shake off dry snow readily.

Lambs should be born strong and vigorous. To produce that kind of lambs, the ewes need a moderate amount of exercise in the winter. You can see that they get exercise by just scattering the roughage over the field, and letting them work back and forth over it, while eating.

Or you can make them take enough exercise, by feeding some of the roughage some distance away from the shelter. If you use winter pastures, you won't need any other arrangement for exercise. However, at no time, should you force ewes in lamb to wade through mud or snow. Also take care that they are not chased by dogs or forced to jump over boards or made to pass through narrow doors. If they are, you are sure to lose lambs or both the ewes and the lambs.

******

ANNOUNCEMENT: This time next week we will go after the sheep-killing dog. In the meantime, we have several important meetings this week. Tomorrow we will talk about costs in egg production. Wednesday we will discuss marketing of some of our other crops. Thursday, we will try to find out how to raise the dairy heifer right, and on Friday we will do a little tree cutting so as to get the most money out of the woods.

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THE FARM FORUM

RELEASE Tues. Dec. 11, 1928.

NOT FOR PUBLICATION

Poultry Meeting No. 11: Costs in Egg Production.

ANNOUNCEMENT: The Farm Forum will be in order! --- We have with us a poultry specialist, of the United States Department of Agriculture. He is going to talk about costs in egg production. Some of us have tried to cut down costs and found that the costs seem to go up instead of down.--- Mr. Specialist, maybe you can set us on the right track.

****

Some folks seem to have the wrong idea. They seem to think cost of producing eggs is a one-sided proposition.

For instance, I know a number of farmers who feed a ration without any protein feed, such as meat scrap or milk.

Now, there is no question, that a ration such as that doesn't cost as much, per on hundred pounds of feed, as a good ration.

But such a ration as that, produces fewer eggs than a good ration. It produces so many less eggs, that it makes the cost of the eggs more. Eggs are produced most economically where the hens are well fed, where they are carefully selected, and where they are comfortably housed.

The flocks with the highest egg production almost invariably produce eggs at the lowest cost. All poultry surveys and demonstration flocks records show that the bigger the egg production per hen the bigger the net profit per hen.

Another thing. If you expect to make any profit from your flock, you must keep down the mortality to a low figure. Some small flocks of chickens may go through the entire laying year without any deaths, but you usually have to expect a loss of 10 per cent. Even in flocks which apparently are well managed, the losses sometimes go up to 20 per cent of the flock.

The average egg production and the mortality in the flock materially affect the cost of producing eggs.

Keeping that in mind, let's see what are the chief costs. What would any of you say are the chief costs?----What's that? ------

Yes, of course, feed is the biggest single item of cost. Feed is often the only item many poultry keepers consider in the cost of eggs. But there are others.

Somebody over here says,"labor costs." Yes, that's the next biggest item. What else?-------

Yes, "equipment and land" should be considered. And there's another thing you haven't mentioned. How about the depreciation of the flock? Those four are the chief items of cost: Feed costs, labor costs, equipment and land costs, and depreciation of the flock.

You understand, the value of a laying flock depreciates fast. I does, unless the hens are culled carefully every year and about half of them are replaced with pullets. Of course, it costs to reproduce half the flock each year. But the laying flock with a big per cent of old hens will not produce eggs nearly as cheaply as a younger flock. Why, I know farm flocks with some hens 3 to 5 years old in them. That's poor economy!

Then, too, the interest on the investment in a poultry farm is an item which is often overlooked. The value of the land, and buildings, and incubators and brooders and other equipment runs into considerable money, besides the investment in the chickens themselves.

A very conservative estimate of the investment in a 1500-hen poultry farm, not including the owner's house, would be $13,000 or over $8.60 a hen. That means $780 interest at 6 per cent a year.

Of course, that's a higher investment per hen than you would usually have in a general farm flock. But in figuring costs, there should be a change for investment in the farm flock as well as the commercial flock. -----(As if interrupted) What's that?----- Yes------ Yes, that's true. A lot of money can be spent for fancy feed hoppers, water fountains, when homemade equipment of the right kind would be just as good with less investment.

And, as you suggest, big elaborate buildings are sometimes put up. Plain houses built only as fast as the flock grows are best. However, the fault with most general farms is not too big an investment in chicken houses. The chief fault is that too little attention is given to providing comfortable houses which are big enough.

Big laying houses arranged to save steps, but with good sanitary arrangement in the houses and yards, help to keep down labor costs. The economical use of labor helps materially in keeping down cost of production. However, labor saved by neglecting the regular feeding of the hens or by failure to clean the houses often increases instead of decreases the cost of producing eggs.

The biggest item of costs is feed. Feed makes up 50 to 60 per cent of the total cost of producing a dozen eggs on commercial poultry farms. It makes up an even bigger proportion in farm flocks and small poultry flocks. A Leghorn hen will eat about 75 pounds of feed in a year. The bigger breeds will eat from 80 to 90 pounds. Milk is usually one of the highest priced chicken feeds. But numerous experiments and poultry surveys have shown that adding milk to the ration has greatly increased returns.

Small flocks of hens on general farms pick up some waste feed on range. Small flocks kept in backyards get tablescraps. (As if interrupted) "A dozen eggs,"did you say? How much will a hen eat to produce a dozen eggs?--- That varies. The average Leghorn pullet will eat about five and a half pounds of feed for each dozen eggs she lays. Pullets of the heavier breeds will eat about a pound more. Yearling hens take more than pullets; Leghorn yearlings take about a pound more and general-purpose yearlings two or three pounds more. However, the heavier breeds bring in much bigger returns from the sale of poultry than Leghorns. They usually pay better on general farms.

But feed costs, as well as labor costs, and equipment and land costs, and depreciation costs depend a lot on management. Naturally, costs vary between different sections. But even in the same section of the country, they differ tremendously.

Some time ago, we made a survey of 32 egg farms in the East. All charges, including interest and depreciation, were figured in. We found that the cost of producing one dozen eggs varied on each of those farms. The costs ran from 26 cents to 83 cents. That gives you some idea of the difference management can make in costs.

But in order to manage so as to reduce costs, you have to know what you are doing. To do that, you need records. You should keep records of expenses, receipts, feed cost and egg production. That information will help you locate any leaks and manage more efficiently.

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ANNOUNCEMENT: This time next week we will try to find how our poultry is marketed. Between then and now, however, we will have several other Farm Forum meetings. Tomorrow is crop day. Thursday is dairy day. And Friday we will talk about which trees to cut. Next Monday we are going after that sheep-killing dog.

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THE FARM FORUM (2) RELEASE Wed. Dec. 12, 1928.
(Regions 1 and 2)

NOT FOR PUBLICATION

Crops and Soils Meeting No. 11a: Where the Oat Crop Goes.

ANNOUNCEMENT: Order in the Forum! --- Members will please find seats. We have with us today another specialist from the United States Department of Agriculture. We've asked him to tell us where the oat crop goes. All right, Mr. Specialist, where does it go?

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Of course, as you all know, most of the oats goes to feed the horses. Oats is the cheapest of all feeds for work stock. The oat hulls make oats a bulky feed. They prevent trouble from gorging.

Being bulky and richer in protein than corn, makes oats valuable for dairy cows, too. And, even though less suitable for hogs, considerable quantities are also fed to hogs. In fact, when oats is cheap compared to corn or barley it sometimes pays to fatten pigs on a ration of one-third oats and two-thirds of the more concentrated feed grains.

But horses are the chief eaters of oats. Because we need a grain to supplement corn in the feed ration for work animals, we grow oats. We grow about three-fourths of the United States oats crop in the Corn Belt and in the hay and dairy regions of the North Central States. Now in the southeastern States more corn than oats is fed to farm animals. That's on account of the high cost of shipment in relation to the feed value. Oats is shipped about the country in large quantities for use as horse feed; but seldom for other classes of livestock.

Let's take this season's supply of oats.

The amount of oats on farms and at the principal markets August 1 of this year was unusually small. But with the bigger crop, the total supply of oats at the beginning of the crop year was about average. That is, it amounted to about one and one-half billion bushels.

Only a small part of that goes out of the country. Judging by other years, from 1 to 3 per cent of the crop will probably be exported.

The chief oats markets or points of concentration are on the Great

Lakes. Duluth, Milwaukee, and Chicago are the biggest. Shipments move east from those points by water and rail. The rail shipments are mostly for local consumption in eastern States. Most of the water shipments go on to Montreal and from there to foreign countries across the sea.

There are also several central western markets, including Indianapolis, and Omaha, and Kansas City. They ship chiefly to consuming centers of the east and southeast. But some may go out for export by way of New Orleans and other Gulf Ports.

But let's follow those oat exports and see where they go, over the ocean.

In the western continental European countries our oats compete on about equal terms with oats from Canada and Argentina. That is, it does except in Italy and Scandinavian countries. There they get by far the bigger part of their oats from Argentina.

The United Kingdom probably takes more United States oats than any other country. But there our oats meet strong competition from shipments from Canada and Argentina. Canadian and Argentine oats exports average about twice as much as those of the United States.

The extensive use of oats in the United Kingdom reminds me of that definition of oats in Dr. Johnson's famous English dictionary. Dr. Johnson defined oats as a food for men in Scotland and for horses in England. To that some Scotchman replied that England was noted for its fine horses, but Scotland was noted for its fine men. The Scotch probably, because of the moist climate, have used oats more as human food. They have learned to eat considerable amounts of oatmeal and they also eat a little oaten bread in that country.

In this country, some 40,000,000 bushels of oats are needed each year to make food products. The milling of those oats produces nearly 650,000,000 pounds of cereal breakfast foods.

But the amount of oats taken for human food amounts to only about 5 per cent of the oats crop. And a lot of the oats used in making oatmeal and other breakfast foods finds its way back to the farm for animal feed.

For instance, the light weight grains and hulls are taken out of oats to be ground and are used in animal feed mixtures. The hulls are usually sold in mixtures with other feeds and grains under various trade names. After the oats are hulled, the fuzzy material covering the kernels is removed. That is what is called oat shorts. Oats middlings are the floury parts of the kernels removed in the process of the manufacture of oatmeal. Oats shorts and oats middlings are commonly used in the manufacture of mixed feeds; or they may be combined with some oat hulls and sold as oat feed.

For the United States as a whole about as many oats were ground for feed and other grain mill products as were used in food preparations. From 10 to 20 per cent of the oats food products is exported, mostly to European countries, Mexico and Argentina.

In addition to the oats as grain and the oat mill by-products, some oat hay and oat straw is also fed to livestock, principally horses.

Probably more oats are cut green for hay than any other small grains. Oats straw is also used a great deal as an animal feed. It is considered better than other kinds of cereal straw. Around 10,000,000 tons of oats straw are eaten by livestock in the United States each year.

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ANNOUNCEMENT: Tomorrow our Farm Forum will talk over the raising of the dairy heifer. The next day we will discuss tree cutting. And then next Monday we will cuss and discuss sheep killing dogs. After we've disposed of them, we'll take our poultry to market on Tuesday.

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THE FARM FORUM (Region 4) RELEASE Wed. Dec. 12, 1928.

NOT FOR PUBLICATION

Crops and Soils Meeting No. 11c: U.S. Export Wheat

ANNOUNCEMENT: The Farm Forum will be in order! -- Members will please find seats -- Today we are going to talk about our export wheat business. We have with us an expert from the United States Department of Agriculture. He will now outline the position of the U.S. wheat crop in the world's markets.

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Before we get warmed up about our wheat exports, let's understand one thing. In exporting wheat, we ship out mostly our lower grades.

Domestic consumers outbid exporters for the better grades. So, as a rule, the best of the harvest is used here and the poor grades are left for export. In any year, our crop may be big enough and good enough to let us export considerable representative wheat. For the most part, however, we export wheats which don't meet our requirements; those which grade low from our standpoint except possibly our durum and white wheats.

Nearly all the good quality hard red spring and soft red winter wheat is used in this country. Large amounts of hard red winter wheat are also used at home, and part of the durum harvest is needed for macaroni here. But the production of durum and hard red winter, in most years, is well above our domestic needs. Hard red winter, durum and the white wheat from the Pacific Northwest make up the bulk of the exports of United States wheat as grain.

Counting flour and other products in with wheat, the United States exports of wheat have been about 193,000,000 bushels a year for the past five years. That wheat has gone to countries in all parts of the world, but chiefly to Europe and the Orient.

England is by far the biggest buyer of United States wheat and wheat products. England takes about 32,000,000 bushels of our wheat or its equivalent in flour every year. Italy and the Netherlands are our

next best buyers. They each take about 17,000,000 bushels of United States wheat. Around 12,500,000 bushels, chiefly in the form of flour, are shipped to China, Hong Kong, and Kwangtung. Belgium takes about 9,000,000 bushels and France 8,000,000 bushels.

Next in order comes Cuba with over 5,000,000 bushels of our wheat a year; the Irish Free State with nearly 4,000,000 bushels; and Brazil and Greece with each a little over 3,500,000 bushels. Mexico and Scotland each take about 3,000,000 bushels while 2,500,000 goes to the Philippine Islands. Added to that, 30,000,000 bushels are sent to Canada, practically all for shipment to Europe.

You see, some countries buy United States wheat mostly in the form of grain, while others take mostly flour. Italy, Belgium, France, Spain, and Portugal take nearly all as wheat. So do Algeria and Tunis in Africa and Japan in the Orient. England takes much more wheat than flour, but she takes considerable quantities of both. On the other hand, Norway, Poland, Denmark, and Finland, buy much more flour than wheat from the United States. So do most of the countries of Central and South America and Africa, as well as China, Hong Kong, and Kwantung in the Orient.

Yes, our wheat exports have to compete with wheat exports from other countries. Our chief competitors in the world's markets, are Canada, Argentina, Australia, India, and, in a small way since the war, Russia and the countries of the lower Danube.

Canada grew more wheat this year than before. She grew more than twice as much as she did during and just after the war. Canada is especially favored with a tremendous amount of untilled land, a big part of which is more suitable to grain growing than to mixed farming----(As if interrupted) How's that? ------ "Costs less to grow wheat in Canada," you say?

Yes, that's probably true. Several cost studies show that the cost per bushel of producing spring wheat in Canada is lower than it is in the United States. But that doesn't tell the whole story. Freight rates on wheat and wheat products on Canadian railroads are much lower than those on our railroads. That helps keep down mixed farming in Canada. Added to that, the Canadian farmer is much closer, on the average, to water transportation than are wheat farmers on this side the line.

Another important thing, which you don't hear much about, is the question of markets for the products of mixed farming in Canada. The natural markets for most of the products of mixed farming in Canada are the big cities of the United States. Tariff walls, however, block Canadian farm products from our markets with the result that Europe becomes the most important market for Canada. There again wheat has the advantage of being easy and cheap to ship.

Under the conditions, therefore, it is reasonable to expect that production of wheat in Canada will gradually increase for some time to come.

The situation is pretty much the same in the cases of Argentina and Australia. The wheat lands in those countries are comparatively near water transporation. In Argentina, the longest haul by rail is but 361 miles. In Australia, the distances by rail are short, too. Both are farming countries with Europe the chief market for their surpluses. Comparatively little of their wheat crop is used at home, but wheat production in those countries is steadily growing. They are becoming increasingly important in the international trade in wheat.

Before the World War, Russia was the biggest producer and also the biggest exporter of wheat in the world. During and after the war, however, Russian production suffered severely. Recovery has been steady. Lack of transportation, and difficulties in facilitating international commerce, and other problems of the Soviet administration have however held back the recovery in the export field.

Russia has vast agricultural possibilities. Moreover it is close to the principal importing countries of Europe. It is therefore reasonable to assume that Russia will eventually "come back" in wheat exports. That will give us another strong competitor.

Other producing countries have shown no particular change during recent years. It seems fairly certain, however, that our export wheat will meet increasing competition from export wheat from Canada, Argentina, Australia, and Russia.

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ANNOUNCEMENT: Tomorrow is dairy day in our Farm Forum. Tomorrow we will discuss the raising of the dairy heifer. Friday we will discuss the selective cutting of trees. We hold these meetings every day except Saturday and Sunday.

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THE FARM FORUM

Wednesday, December 12, 1928.

Regions 3 and 5

Crops and Soils Meeting No. 11b: Overproduction of Fruits and Vegetables.

Speaking Time: 9 minutes.

ANNOUNCEMENT: Members of our Farm Forum want to know what is happening to fruits and vegetables. A lot of us have been getting lower prices for crops. They blame it on "overproduction" ---- Well, today we have asked a market specialist of the United States Department of Agriculture to tell us why that is ----- Here he is -------

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Potatoes are a good example of what is happening -- in the case of a number of fruits and vegetables.

The real demand of this country for potatoes is around 400 million bushels. When we grow many more potatoes than that, prices drop on the whole potato crop.

Year before last, we grew only about 350 million bushels. That crop brought a nice profit to the grower. Last year, the crop was about 400 million bushels. The supply was just about equal to the demand. Efficient growers made a profit. This year, however, the crop amounted to over 460 million bushels and prices are disastrous for everybody -------- "What's the reason for that overproduction," did you say? -------

Well, overproduction of fruits and vegetables is due to one of two things; either too big an acreage or too big a yield to the acre, or both.

Naturally, market prices affect fruits and vegetable acreages differently. Apple and citrus trees for example, take seven or eight years to come into profitable production. Peaches and plums take four or five years, grapes a little less. And it not only takes time but money. Fruit trees are in the nature of semi-permanent investment, and often add tremendously to the value of the land. That increase is expected to offset the investment in the trees while they are coming into profitable production. The time and investment needed to bring trees into production keep fruit growers from changing to other crops when oversupply threatens. Even a series of years, disastrous on account of overproduction, won't cut down the acreage much.

Growers feel their investments are too big to be sacrificed. They hope that frosts and other unfavorable conditions may cut the total production the next year; or that there will be more demand for that particular fruit; or that other growers will be forced out of the business first. They are apt to resort to mortgages to enable them to keep going. And the

banker or money lender who becomes a partner in the business is even less willing than the owner himself to approve a reduction of acreage which the oversupply demands.

Vegetable growers, on the other hand, deal mostly with annual crops. There is no long time investment, such as there is in an orchard. The grower is not bound to produce the same crops this year he produced last year. He is much freer to change from one crop to another. That means, that vegetable acreages change from year to year much more than fruits can change.------(As if interrupted from audience) What's that? ---- What is causing overproducing now?

Well, during the last few years, there has been a great deal of exploitation of vegetable producing sections. Vast areas formerly given over to grain and livestock have been brought under water and made available for truck growing. Whole communities have jumped into sudden prominence in the production of one or more truck crops, and then gone almost bankrupt in a year of crop failure or of overloaded markets. That is still going on in some sections of the country. Spinach, cabbage, and tomatoes, and leafy vegetables in some of the newer regions are examples of that. As long as that exploitation of new vegetable acreages by real estate promoters goes on, overproduction of some of those crops is inevitable.

Now, in the case of grapes and some fruits, the abnormally high prices during the war and just after the war are chiefly responsible for the big increases. Those high prices shoved up the values put on orchards and groves and vineyards. At the same time, prices on most other farm crops fell. And, of course, the value of the lands on which those other crops were produced also fell.

Fruit land being more valuable than other crop land caused those already growing fruit to increase their acreage. Not only that, but it caused growers of less profitable crops to plant big acreages to the fruits which had shown the biggest profits.

And, as in the case of vegetables, the new high acreage values of the various fruits stimulated the exploiters. Looking for their profits in the sale of real estate, and not in the sales of fruit, they added still more to the acreage; until the total reached a disastrous size.

Stock was taken and the exploitation was checked. But much of that acreage has come into bearing during the past three years. So you now see growers of grapes, and lemons, and cling peaches for canning and prunes struggling with a serious problem in overproduction. In the next year or two, pears, apricots, and grapefruit will probably be in the same fix. (As if interrupted from audience) How's that? ----- "bigger acre yield" ----

Yes, that's another important factor in overproduction of fruits and vegetables. There has been more general application of scientific knowledge to those crops. Take potatoes, for example.

During the last five years, the average yield of potatoes to the acre has been about 115 bushels. That's about 15 per cent above the yields for the five years before that. Those higher yields are largely due to the more general use of certified seed. But the possibilities of still further increases, due to greater efficiency, make up one of the real agricultural problems.

There has already been a sharp cut in new plantings of most fruits. Promotional development of truck lands seems to be on the decline. Co-operative marketing organizations, State departments of agriculture, extension services, and the banks that are directly affected by the prosperity of fruit and vegetable growers are lending their influence to prevent further expansion of acreages.

However, if the efficiency of production keeps increasing, as it has during the last few years, production of many fruits and vegetables will continue to run ahead of consumption for sometime to come, even if the acreages remain where they are. Fruit and vegetable growers are suffering from "galloping production".

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ANNOUNCEMENT: This time next week we will have a talk on alfalfa seed. Tomorrow, however, we will discuss the raising of the dairy calf. Friday we will talk about what trees to cut. Monday the subject is sheep killing dogs, while Tuesday we will take up poultry marketing.

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THE FARM FORUM

Thursday, December 13, 1928.

NOT FOR PUBLICATION

Dairy Meeting No. 11: Raising the Dairy Heifer.

SPEAKING TIME: 8-1/2 minutes.

ANNOUNCEMENT: This is dairy day in our Farm Forum. Our Big Milkman is going to tell this meeting how to raise the dairy heifer. What's that you say? "That's simple" --- How about that, Mr. Milkman? ----- Is that so?

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That's true. After a heifer calf is six months old, her feeding and care are comparatively simple. But even so, there's many a heifer calf that doesn't get the feeding and attention she should have.

It is a dollar and cents proposition. A heifer doesn't yield any income until she has freshened. It pays to feed her liberally, so she will develop fast and be bred for freshening at the normal age for her breed.--- (As if interrupted)

"What would I feed her?"

Well, you should give a give a heifer plenty of roughage at all times, of course. Good pasture furnishes that in the summer; but here in the winter, you have to depend on hay and silage. In addition to that, you should feed her enough grain for her to grow as she should. She should gain from 1 to 1-1/2 pounds a day.

----- This man down front here asks "What kind of hay is best" for heifers -----

There should be no question about that. Well-cured legume hays, such as alfalfa, and clover, and vetch, and cowpeas, and field peas, and soy beans are best. They are high in both protein and lime. Corn silage is a nutritious succulent roughage which helps keep the digestive system in good condition during the winter. ----- (As if interrupted) How's that? ----- "How much?"

Well, heifers from 6 to 12 months old, should be given from 5 to 15 pounds of silage a day. Give them all the good legume hay they'll eat. As for the grain, that will depend on the growth and condition of the heifer.

A safe rule to follow in feeding heifers grain is to feed about one-half pound of grain a day for each 100 pounds of live weight of the heifer. If the heifers are too thin you should feed them more grain. ----- (As if interrupted) All right? ----- What was your question? ----- Oh, you just want a grain mixture.

Well, if you are feeding legume roughages, here's one will give your heifers what they need;

Three parts, by weight, ground corn and 1 part wheat bran.

Or, maybe you would prefer this one: Three parts by weight ground corn, 1 part wheat bran, and 1 part ground oats.

Two parts by weight ground oats and 1 part wheat bran also makes a good mixture.

And here is still another. It is a little more elaborate mixture. Four parts by weight ground corn, 1 part wheat bran, 2 parts ground oats, and 1 part linseed oil meal.

Did you get that? Suppose I repeat it. Four parts by weight ground corn, 1 part wheat bran, 2 parts ground oats, and 1 part linseed oil meal. ----- (As if interrupted) What's that? "Suppose you don't have enough legume roughages?"

In that case, where the amount of legume hay is limited, and where you feed the heifers part of their roughage as corn stover or prairie hay, or timothy hay, you will need more protein in the grain mixture. In that case, you might feed one part by weight ground corn, 1 part ground oats and 1 part wheat bran.

Another good ration is equal parts by weight ground oats and wheat bran.

Or you might take this down. Now, here it is: 2 parts by weight ground corn, 2 parts ground oats, 1 part wheat bran, and 1 part linseed-oil meal.

In place of that ground corn, you can feed ground or rolled barley or hominy feed, or kafir meal. (As if interrupted) Now, then, you over there on the left. I can answer your question now ----- (Pause) "How about feeding milk?" did you say?

If skim milk is plentiful and cheap, it may pay you to feed skim milk until the heifer is 8 to 10 months old. But most folks stop feeding skim milk when the heifer is 6 months old, In any case, however, quit feeding the milk gradually. Take about 10 days to do it, and gradually increase the other feeds as you leave off more and more of the milk. Feed so the heifer will keep gaining normally. ----- (As if interrupted) What? ----- "Heifers a year or two old?"

Why, they need about the same feeds and about the same care as heifers six months to a year old. They are bigger and, of course, they eat more than the younger heifers. Give them all the hay they will clean up. Added to that, give each heifer from 15 to 25 pounds of silage and a third of a pound of grain for each 100 pounds of live weight.

And see that your heifers have plenty of water and that there is salt where they can get at it any time they want it.

And please bear in mind, heifers need dry, well-bedded and well-ventilated quarters, when they are not on pasture. (As if interrupted) What ----- What kind of quarters?

Oh, a pen in the barn or an outside shed open to the south. Let her have a lot big enough for her to get plenty of exercise. And group the heifers of about the same age together. Keep them separate from these older and also from those younger than they are.

And, of course, I don't have to mention that the quarters for the heifer should be kept clean and sanitary. They should be disinfected regularly.

Handle the young heifer occasionally; so she won't be shy when she goes in the milking herd. Get her used to the halter and stanchion. That will save trouble after calving. It usually helps make a gentle cow.

However, all these suggestions I'm giving you are in the U. S. Department of Agriculture's Leaflet No. 14 on "Raising the Dairy Heifer." Write for it.

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ANNOUNCEMENT: The number of that leaflet on "Raising the Dairy Heifer" is Leaflet No. 14. You can get it either from Station_____ or by writing direct to the United States Department of Agriculture. And while you are writing, why don't you ask for your copy of the free Radio Record Book? It will give you a handy place to jot down such things as bulletin numbers, and other notes you get by radio.

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THE FARM FORUM (Regions 4 and 5) Friday, December 14, 1928

NOT FOR PUBLICATION

Forestry Meeting No. 4c. Christmas Tree Cutting.

Speaking Time: 8 Minutes.

ANNOUNCEMENT: The Farm Forum will be in order! -- Today we have with us a forester from the Forest Service of the United States Department of Agriculture. He has something to say to us about Christmas tree cutting -------All right, Mr. Forester.

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Why not give the forests a Christmas gift? ------- No --no. I'm not going to declaim that old piece about,

"Woodman, spare that tree;
Touch not a single bough"

I am not here to urge that you rob the children of their Christmas trees. We are for Christmas trees. There are plenty of Christmas trees in this country for everybody. In cutting Christmas trees you can actually help the forests. Christmas trees may be the best of Christmas gifts for the forests themselves.

That is, they may, if you cut the right trees. The trouble is many people cut the wrong trees. They often take trees from the wrong places. Some people even seem to think it is no harm to steal a Christmas tree from someone's property.

The Forest Service is for common sense Christmas tree cutting. Cutting can and should be done; so as to improve the forest and not to harm it.

Let me just tell you how they are taking care of the Christmas tree business in Colorado.

The Chamber of Commerce of the City of Denver started a movement to control the sale and use of Christmas trees several years ago. Promiscuous slashing of all the desirable young trees on private property aroused a lot of citizens to urge some action to stop the vandalism.

You know, people used to have the misguided notion that they needed the most symetrical trees in the stand for use as Christmas trees. As a rule, that meant that the trees which were cut for Christmas were the kind which should have been left. Symmetrical trees grow in the open. They generally grow where more trees are needed instead of fewer.

Well, as I was saying, around Denver there wasn't much Christmas spirit about the cutting of Christmas trees. Why, the Christmas tree hunters even took ornamental trees from mountain homes. They even chopped down and carried off fine trees along automobile highways in the mountain parks.

Of course, that kind of vandalism or thoughtlessness or brainlessness or whatnot couldn't be allowed to go on. Several years ago, the Denver City Council, to put a check to that sort of thing, passed an ordinance requiring a $50 license fee to engage in the sale of Christmas trees.

They thought that would cut down the number of dealers; so that not so many trees would be brought in. Better still, it would give the police authorities the right to question every person coming into the city with Christmas trees and force them to show a bill of sale or furnish definite information as to where they got the trees.

Well, then the United States Forest Service became interested. The foresters saw in it possibilities for thinning the dense stands of young growth in the mountains near Denver. From their standpoint, there are plenty of Christmas trees for everybody. Why, in Douglas fir stands there are often from 1500 to 3000 trees to the acre. Part of those trees can be taken out, and those which are left will be very much benefited. If 700 trees from 5 to 10 feet high are left on an acre of land, that will be plenty to provide a good stand of merchantable timber after a few years. Taking out the excess trees allows those which are left to grow better. At the same time, it provides trees to add to the Christmas cheer.

But really there is no need for an entirely symmetrical Christmas tree. Symmetrical trees grow in the open. They are needed to provide us with our future stands of merchantable timber. They are needed to protect the mountain watersheds; so as to prevent the rapid run-off of water and the too quick melting of snow in the spring. A good stand of young growth, you know, will hold the snow for a much longer time in the spring. In other words, a good stand of young growth trees help us to have plenty of water for late summer irrigation.

The Denver Chamber of Commerce and the U. S. Forest Service have been trying to show folks that trees which are a little flat-sided are all right for Christmas trees. In fact, they may be better than a perfectly symmetrical tree. They will fit in the corner of a room better; and as Christmas trees they will serve their purpose just as well as perfectly round trees. ---- (As if interrupted) ----- What's that? ----No! ----You have the wrong idea --- They are not asking people to use only ugly, thin-sided trees.-- Not at all ----

Here is their plan. Here is how the cutting is done under the policy which the Forest Service outlines.

Those thinnest trees are stripped of their branches. They are used for wreaths, and for other decorations.

The better class of trees cut out in thinning are the ones sold for Christmas trees. Under Forest Service cuttings each tree is marked with a red tag. On that red tag in black letters, are these words: "This tree was cut from the Pike National Forest under the direction of the United States Forest Service for the improvement of the Forest stand."

On the back of the tag is printed the following: "The prevention of forest fires through the past years has made possible this tree to decorate your home on Christmas Day."

That tag tells a mighty big story in a few words.

As a result of the suggestion of the Chamber of Commerce, the city of Denver last year started a similar plan. Members of the Improvement and Park Department were assigned to inspect private cutting and to advise owners as to how trees should be cut. They also issue tags, if the cutting is done according to the Government policy. That helps protect home industries, particularly since every year there are quite a number of trees shipped in from a distance which, of course, are not tagged.

That is how they are handling the Christmas tree business in Colorado. It might be handled in many other communities in a similar way. Christmas trees can be made Christmas gifts to our forests.

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ANNOUNCEMENT: The meeting of the Farm Forum is now adjourned. The next meeting will be next Monday, which is our livestock day. Tuesday is poultry day. Wednesday we usually discuss some soil or crop problems. Thursday is our dairy day. And Friday --- Next Friday at this time, we will talk about farm organization and the control of production costs.

# # #

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THE FARM FORUM (Regions 1,2 and 3) RELEASE Fri. Dec. 14, 1928.

NOT FOR PUBLICATION

Forestry Meeting No. 4: Selective Cutting in the Farm Woods.

Speaking Time: 8½ minutes.

ANNOUNCEMENT: The Farm Forester, from the Forest Service, of the United States Department of Agriculture, is with us again today. He is going to tell us what trees to cut out of our farm woods.---- Isn't that right, Mr. Forester?------ Isn't that what you are going to tell this Farm Forum? ------- Go ahead, then, we're waiting.

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My friend, Bob Johnson, asked me to look over his farm woods the other day. He wanted to show me the trees he had marked for cutting. He thought he had made a pretty good sale. He was just hoping I would agree with him.

And he certainly had some mighty fine trees marked; some of it high quality white oak and black walnut. That timber was worth real money, and he was tickled with the price, he was going to get.

"But look here, Bob," I said, "How about these smaller beeches, and ironwood, and dogwood trees? Are you going to keep those in your woods?"

"The high-quality stuff was what they wanted," he explained.

"Of course," I told him," but if you leave those inferior species standing, they will scatter their seed over the ground. They will very largely make up the future stand.

"And look at that tree over there," I went on, pointing to one which was evidently dying. Diseased or insect-attacked trees like that should be cleared out. You should have a clause in the contract that all those dead, dying, and defective trees should be taken out.- And those inferior species should be taken down to a smaller diameter than the more valuable ones."

"I couldn't get the buyer to do that," Bob protested. "If I did I'd have to come down on the price."

"Well, maybe you would have to make some price concessions," I agreed, "but that is likely to pay you better in the long run."

We all want to remember that the trees left in the woods will be the nucleus of the future crop. As I said to Bob, the valuable species should be enough in the majority to seed up the cut-over areas.

But unless small trees bring higher prices per unit of measure than big ones, or unless they are of species that it is desirable to get rid of, don't cut them.

Only a very little, low-grade lumber can be cut out of trees ten inches or less in diameter. If the lumberman expects to saw them into lumber, he figures on paying little or nothing for the small trees. He couldn't afford to do otherwise.

However, remember this. Trees of that size are usually growing fast. Or, at least, they will grow fast when the other trees are cut out and they can get more sunlight. As they grow bigger, they will not only cut more lumber, but higher grade lumber. In other words, they increase in value faster than they increase in size. It is plainly poor business to cut them while they are small.

Select the trees to be cut, as they mature. Leave the surrounding young trees to keep on growing. Take out the dead, dying, and defective trees; either at the same time you cut the mature trees or earlier, in connection with improvement cutting. That's the system to use in stands of shade-enduring trees like spruce, and fir, and hardwoods, or in mixed stands, or in stands with trees of a good many different ages.

And be sure to see that care is used to felling the trees. As I warned Bob, young trees may be seriously broken or bent if you are not very careful. And a good deal of breaking, and bending, and tramping of young growth or "brush" can be avoided in dragging the logs out of the woods.

Just keep in mind that that so-called brush is the first stage of mature timber. That's the growth the future of the woods depends on. You should be careful to prevent the destruction of brush, particularly in the better species. It represents a growth already several years old.

You may be able to get a new stand of seedlings; and then again you may not. At any rate, the "brush" has the advantage of several years growth. And not only should you be careful in case you do the cutting yourself. But when you sell standing timber, you should charge the buyer with protecting this young material as fully as possible. Better write it into the contract. (<u>As if interrupted from audience</u>) What's that? ------"What can you do about the poor timber, the buyers won't take?"

Oh, you can usually use the inferior stuff in some way. Dead and defective trees taken out along with the best in a cutting operation, can be used for cordwood. And the poorer species may sometimes serve nearly as well as the better ones for special needs on the farm; such as for poles and posts.

In a pure stand of mature pine in which practically all the trees are ready for cutting, you may want to cut nearly clear. In such a case, you can still provide for establishment of new growth of young trees by leaving a few seed trees to each acre. The seed trees you leave, however, should be big sound trees with heavy tops, those that are good cone-producers. Leave them close enough together so that they will be able to seed up all the cleared spaces.------- (As if interrupted) What? ---- "How many?"

From three to eight trees to the acre should be enough for seed. That of course, depends on the trees and their location.

And if you are cutting the trees yourself, remember there is often a lot of waste in cutting on farm woodlands because so much timber is left in the stump. The butt log contains the clearest and most valuable lumber in the tree. When you leave several feet of the butt log in the stump, you are trimming your profits. Cut the trees as close to the ground as possible.

******

ANNOUNCEMENT: This time next week our Farm Forum will discuss farm organization and the control of production costs. Our next meeting, however, will be next Monday when we will talk about the sheep killing dog. Tuesday we will talk about marketing poultry. Wednesday we will examine alfalfa seed a little, and Thursday, which is our dairy day, we will discuss the common ailments and parasites of dairy cattle.

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FARM FORUM TOPICS
for
Week of December 17, to December 21.

December 17 - Sheep Killing Dogs

December 18 - How Our Poultry is Marketed

December 19 - Know Your Alfalfa

December 20 - Diseases of Dairy Cows

December 21 - Farm Organization and Control of Production Costs

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THE FARM FORUM

RELEASE Mon. Dec. 17, 1928.

NOT FOR PUBLICATION

Livestock Meeting No. 12: Sheep Killing Dogs.

Speaking Time: 9 minutes.

ANNOUNCEMENT: The Farm Forum will now come to order! ----- We'll have to ask members to keep their tempers during the discussion today. We don't want any fights in here. --- And please don't get personal. --- Of course, none of us are going to take up for a sheep-killing dog; but still you know the old saying "Love me, love my dog." ------ Mister Mac! ---What have you got to say about sheep-killing dogs?----------

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There's nobody thinks any more of the dog than I do.

And I know my dogs don't kill sheep.

There's a reason for that. I don't believe they would anyway. They are not that kind of dogs. But I don't take any chances.

I keep my dogs under control any time I take them off the place. And I keep them penned up between sunset and sunrise.

You know, night-time is when sheep-killing dogs usually do the most damage. They work under the cover of darkness. That's what makes it so hard to catch them in the act of worrying sheep. It is seldom you can positively identify a sheep-killing dog.

I used to have a friend named Bob --- I mean a dog named Bob. I looked on him as a friend. I thought a lot of that dog. I would have fought anybody who laid their hands on him.----

Why, he used to lie there in the front-yard sleeping in the day-time just as innocently as a baby. You never would have suspected him. I guess he got into bad company, and was led astray by some naturally ornery cur. That's the way with a sheep-killing dog. After he has once killed a sheep, it seems to become a mania with him. He is seldom, if ever, broken of the habit. And he not only kills sheep himself, but he also leads other dogs into sheep-killing. The only thing to do is to

kill him -------(As if interrupted from audience) Yes, that's what I said. If you want to avoid more losses, kill the dog as soon as you find he has the sheep-killing habit. -----What's that? ---------
"Not many?" ---------

You never were more wrong in your life, brother. Thousands of sheep are killed every year by dogs. Killings by dogs cause big money losses to sheep owners every year. The dogs work both singly and in groups, but usually in twos or threes. They don't limit their attacks to the flocks in the immediate neighborhood. They travel for miles in all directions and spread destruction in the flocks with which they come in contact.

But that isn't the worst damage they do. They keep out of the sheep-raising business men who would otherwise be inclined to go into it. What farmer, even when he does want to raise sheep, is likely to try it, while his neighbors's flocks are being chased to death?-----(As if interrupted) How's that? --- "Chased?"

Yes, in many cases big numbers of sheep are killed by dogs although they are neither bitten nor wounded. They are simply chased until they die of exhaustion. Of course, you understand, the ways in which different dogs attack and kill vary a good deal. Some dogs just kill one or two sheep in a flock. Some others keep at the kill until all the sheep are either destroyed or crippled. Others simply chase the sheep to death.

In any case, the thing to do is to kill the dog if he ever gets that habit. He deserves no consideration -------(As if interrupted)------
What? ------- "Fences?" ------

Yes, dog-proof fences can be built. I have some on my place. I use woven-wire fencing, with a strand of barbed wire at the bottom to prevent the dogs getting under the fence and an offset on the outside with a barbed wire running parallel to the top wire of the fence. That's to keep the dogs from climbing over. Dogs and wolves will do that sometimes, if you don't have a guard wire to prevent it. ------"Expensive," ~~you say?~~"------

Yes, that's true, It is rather expensive to fence big tracts of land that way. Now, I put my sheep in a corral each night. The corral is fenced with a good dog-proof fence. By inclosing a small area, and putting the sheep in it each night, I cut down the expense of a lot of high-priced fencing.------(As if interrupted) Yes? --(Pause) Maybe so, Henry. Maybe so---------- Henry Rawson down front here says many an innocent dog has been accused of sheep-killing.

That may be so, there's no question but that sheep killing in the neighborhood puts a lot of dogs under suspicion. And as I say, it's

often pretty hard to get direct evidence on a sheep-killing dog. They are pretty smart in hiding their crimes.

That is the reason I say the most practical way to keep down sheep-killing dogs is to put such a tax on dogs as will cut down the number, and prevent so many being kept by persons who can't or won't give them the attention necessary to prevent them from getting the sheep-killing habit.

Yes, sir, one of the best ways of insuring a profit from sheep raising is to make and enforce laws against sheep-killing dogs. There are several States with laws like that. And then again, there are several States with laws --- but the laws don't do what they aimed to do. In some cases, it is because the good law is not enforced. In most cases, however, it is just because there is no good law.

The most important thing to bear in mind in drawing up an effective dog law is to have a law which will command the moral support of the people. Some of the States have enacted rather stringent dog laws. Some of those laws, however, have not had the support of the people and have not been enforced by the officers. On the other hand, in several States where just dog laws have been passed, most of the people are ready to support the law and the officers have enforced the law efficiently.----- (As if interrupted) ~~Well?~~ Did you have a question back there? ------ What? ------"How about that dog Bob of mine?" ---"How did I find out he was a sheep killer?"

Well, that was one of those rare cases, where the killer was caught in the act. It was on a neighbor's place. That innocent-looking Bob of mine was hunting with a pack. He got shot. Some of the others got away. My neighbor called me over. They had the goods on Bob. There was wool right in his teeth. But I always will believe some of those other dogs led Bob astray. Bob seemed such a good-natured dog.

******

ANNOUNCEMENT: This time next week, on Christmas eve, we are going to talk Christmas presents for the children --- That is, we are going to discuss livestock as presents for children. But we have four more meetings this week. Tomorrow we will follow the poultry to market. Wednesday we will consider danger signals in alfalfa seed. Thursday, we will have a little veterinary advice on dairy cattle diseases. And Friday, we will have a man here to tell us something about the control of production costs.

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THE FARM FORUM

RELEASE Tues. Dec. 18, 1928

NOT FOR PUBLICATION

Poultry Meeting No. 12: How Our Poultry Is Marketed

ANNOUNCEMENT: Let's have your attention this way please!--- Here Ike---Step up here and help me with this map.------ Can you all see this map of the United States? Today our Farm Forum is going to be addressed by an export from the United States Department of Agriculture. He is going to give us a general picture of how our poultry is marketed. That's the reason for the map ----- Is that where you want it, Mr. Specialist? ------

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(Aside) Give me that pointer, please.

(To audience) Here on this United States map, you see these East and West North Central States. Here they are; Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

In those States about half of all the poultry in this country is produced. In fact, there is much more produced than is used in these States. That means that poultry from those States must be moved over to our northern and eastern cities for marketing.

Now then down here in certain sections of the South --- and out here on the Pacific Coast, there are other surplus producing regions. At times, poultry may move from as far away as Texas or Oklahoma, or even from California, way up here to New York City.---- How does it get there? -----

You, on the front row here, -- How do you ship your poultry to market? -- What? --- "By truck to commission merchants"

Well, where poultry producers live within easy shipping distance, they commonly make individual shipments by express or truck. But I'll venture to say, that most of you here ship and sell your poultry alive to local buyers. That is the easiest way to handle it. Some of you may kill your own poultry and ship it dressed. Sometimes it pays to do that. Most poultry raisers, however, are not skilled in killing and dressing and don't try it.

In most sections, poultry producers are so far away from the final market, that it doesn't pay them to make individual shipments. So they just sell the live poultry to local buyers, or to hucksters, or to poultry and egg packing plants direct.

Eventually, the smaller lots of poultry are concentrated in the hands of the bigger dealers. The big dealers combine the smaller lots, this man's chickens and those of that man over there, and a number of others, and ship them to market in carlots. He may forward them either alive or dressed, depending upon the markets for live and dressed poultry. If the spread of prices between the two is big enough it may pay him to dress them. But, of course, it depends on the type of business he is doing, primarily.

If that country receiver of your chickens, or other poultry, is running a poultry and egg packing plant, he generally sorts out the poultry according to age and sex. Those which are suited for fattening, he puts in a feeding station for fattening.

Some of you have seen feeding stations. The feeding station is just a big, well-ventilated room, with movable batteries of coops in which the birds are kept where they can be fed conveniently. ------- (As if interrupted) What say? ------ "How lang do they usually fatten them?"

Well, that varies. Anywhere from a few days to as long as 14 days.

Then the chickens are killed, plucked, carefully chilled to take away all body heat, and graded for size and quality, then packed in boxes holding a dozen each or in barrels. Actual shipment is usually made in refrigerator cars, although some is shipped in barrels with ice.

When that dressed poultry gets to market it passes through the hands of the wholesale dealer and the jobber to the retailer who sells it to the consumer. New York City alone gets nearly two hundred million pounds of dressed poultry a year. In addition, they get about the same quantity of live poultry.

Most of the poultry crop goes to market during the fall and early winter; but it is not all used then. Some of it is put in cold storage and held in a solidly frozen condition until receipts are not so heavy. About February 1 each year, cold storage holdings of poultry reach their highest. In some years nearly 150,000,000 pounds of poultry is in cold storage at that time.------(As if interrupted) Yes? ------ "How long is it kept in storage?"

Oh, not over six to nine months. It is worked out as it is needed to supply the trade.

However, a considerable part of our poultry, yours and mine goes all the way to the consuming markets alive. Some of it is from nearby shippers, who ship to commission merchants for sale. But more of it is made up of freight shipments from shippers who concentrate poultry at country points and ship long distances. The live poultry is usually shipped in especially built cars, with eight rows of coops along each side of the car with an aisle between for feeding and tending conveniently.

The sides of the car are are covered with wire netting to give plenty of ventilation, but in stormy weather canvas curtains can be used. An attendant rides in the car and feeds and waters and otherwise cares for the poultry in transit. The average load carried in one of those cars is 17,000 pounds. When the car reaches the terminal market, the live poultry is unloaded and sold to slaughter house operators who kill it for the local trade. Much of the live poultry is used by Jews and so must be "koshered" or killed according to rites of their religion.

New York is the biggest poultry live market. And at New York all live poultry unloaded must first be inspected for health and to see that it is not in an overcropped condition. The New York City Department of Health requires that. But the actual work of inspection is carried on under the supervision of the United States Department of Agriculture.

And the job of inspecting all that poultry, some 12,000 cars a year, is quite a job, especially as the poultry arrives at five of six scattered terminals and the demand for inspection of a day's unloads usually comes at about the same time of day. It takes some 15 or 16 inspectors to handle the work.

From what's been said, you can see that there is a well-developed system of marketing the poultry you raise. That system has been developed to preserve the initial quality of the poultry and to cut losses to the minimum.

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ANNOUNCEMENT: Tomorrow our Farm Forum will examine alfalfa seed to see what seed are adapted to use around here. Thursday will be our regular dairy meeting, and Friday we will see how we can control production costs on our farms.

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THE FARM FORUM Wednesday, December 19, 1928

Crops and Soils Meeting No. 12: Know Your Alfalfa

ANNOUNCEMENT: The Farm Forum will be in order! --- We have with us today a specialist of the United States Department of Agriculture. He wants to sow a few seed of alfalfa truth among you alfalfa growing farmers ------- We don't stand on ceremony in these meetings --- go ahead, Mr. Specialist -------

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I'll go ahead.--But I want to warn you alfalfa growers! Watch out for the danger signal! Red is the sign of danger; whether you see it at the railroad crossings, or on alfalfa seed.

That warning is especially important this year. Due to the shortage in the domestic and the Canadian seed crop, this year it appears likely that considerable alfalfa seed may be brought in from other foreign countries.

At times, we've had considerable quantities of alfalfa seed from Argentina, and Turkestan, and South Africa. Much of such seed has been sown in the northeast and generally found unsatisfactory. You understand, the seed from Argentina and South Africa is produced in a mild climate. The plants winterkill badly in our northern states. The plants from Turkestan seed have proved to be short-lived under humid conditions.

Because the farmer couldn't tell by looking at the seed where they came from, the Federal Seed law was amended in 1926, so as to protect you alfalfa growers from losses from getting hold of seed which wouldn't grow well.

Under that act, foreign grown seed shown to be unadapted to general agriculture or of unknown origin must be stained 10 per cent red. At present, Turkestan and South African seed is stained 10 per cent red and Argentine seed 10 per cent orange-red.

Seed from Canada is stained 1 per cent iridescent violet. As conditions under which seed is produced in Canada are, for the most part, as severe as in the United States, seed from Canada can generally be regarded as cold resistant as seed produced in this country. So, you see, seed with a violet stain can be expected to give satisfactory results in our northern states with a reasonable degree of certainty.

Now then, seed grown in any other country when accompanied by the proper certificate is stained 1 per cent green. But don't get the idea that that green coloring stands for safety. That one per cent of the seeds stained green simply means that we don't know much about it. Such seed may or may not be hardy.

If you use such green stained seed, you take chances. -------(As if interrupted) ---The gentleman over here on the right seems to have a question -------Yes? (Pause) "What varieties should you grow?"

Well, under the most severe conditions, it will pay in the long run, to sow the hardiest varieties commercially available at a reasonable price. The hardiest are the variegated varieties, including such alfalfas as Ontario Variegated, Frimm, Cossack, Baltic, and others.

Where conditions are not quite so severe, or where you feel you can't pay the higher price asked for variegated alfalfa, then use seed of the common variety that has been grown several seed generations in the northern states and, as a result, has acquired a considerable degree of hardiness through natural selection.------- What say? ------"How about the South?"

Well, to the southward, winterkilling becomes less and less liable to happen. To the southward there is no need of an extremely hardy alfalfa. Even in the south, however, in order to be on the safe side, alfalfa growers should insist on seed that have been grown for several seed generations under conditions that are at least as severe as those where the seed is to be sown.

In the extreme south, there is no need of an alfalfa resistant to cold. In the extreme south, the problem is to find the variety of alfalfa that will live longest and produce the heaviest yield; of course, giving due consideration to the quality of the hay.

As a rule, the bigger the tonnage the faster the growth, and the fast growing alfalfas are always susceptible to cold. On the other hand, the hardy alfalfas produce lower yields than the non-hardy sorts. That's due, in part at least, to their slower recovery after cutting. I wouldn't advise any grower in the extreme south to use seed of the hardy sort. -----(As if interrupted) --- Certainly ----- What's the question? -------"Where?"

That's a good question. Knowing which is the most suitable variety or strain for your section, you are faced with the problem of getting the seed you want.

The seed staining we mentioned gives you some guide as to foreign seed. Moreover several state agencies now certify seed of certain varieties of alfalfa, including Grimm, and Cossack, and Baltic, and others -----(As if interrupted) What say? --- "What do I mean 'certify'?"

Well, that varies in different states. The chief points are that fields from which seed are certified must be clean before and after sowing, the seed used must have been obtained from a known source of pure seed, and the fields must have been inspected while in bloom. If the seed has been handled properly up to that point, in some states the seed is sealed and tagged at the thresher and again at the cleaning plant. In buying varieties for which there is certification, always insist on certified seed. Uncertified seed may or may not be true to name.

You can be sure that the source of the seed you buy is as stated, if you insist on the seed being accompanied by a verified-origin seed certificate. Verified-origin seed certificates are issued by a seed inspector or by a dealer who is authorized to issue such certificates by the United States Department of Agriculture. ----How's that? ----Yes, that certificate assures the buyer that the seed it goes with comes from the State it is claimed they come from.

Together, the seed staining act, state certification of seed, and verification of origin, have greatly improved your chances of getting what you want in alfalfa seed.

Nearly all the big alfalfa seed dealers are working with the Department in keeping satisfactory records, so that practically all their alfalfa seed may be verified as to origin. If you buy from a retail dealer, buy seed with the verified origin certificate attached and be sure the seed your dealer gives you are the seed covered by the certificate.

With the protection, State and Federal, now available, there is no excuse for a northern farmer to sow seed produced in the southwest, and so run the risk of serious losses from winterkilling.

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ANNOUNCEMENT: Tomorrow will be dairy day at our Farm Forum. At tomorrow's meeting we will discuss common ailments of dairy cows. Friday we will talk about production costs and how to control them.

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THE FARM FORUM

RELEASE Thur.-Dec. 20, 1928.

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Dairy Meeting No. 12: Common Ailments of Dairy Cattle.

ANNOUNCEMENT: Today our Farm Forum will discuss some of the common ailments of dairy cattle. Our first speaker is a specialist of the U.S. Department of Agriculture--- Order, please! ---- We can't talk about the disorders of dairy cows, until you dairymen come to order.--------- That's better, now. All ready, Mr. Specialist-------

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In these days, a few sick cows can cause the failure of a dairy business.

These days, dairymen aim to get the most milk the herd will produce. Dairying is on an efficiency basis. The difference between success and failure, may be the difference between health and a diseased condition of the cows.

In other words, keeping the herd in health is good business. But cows are subject to a good many ailments ---------- Where shall I start? --- Do any of you have cows sick now? --- Just speak up? --- What would you like for me to deal with first? --------- What's that? -----"Hollow horn?"

Surely I didn't hear you correctly. Did you say "hollow horn"?

There simply is no such disease! I'm surprised that a dairyman in this audience would ask such a question! Such terms as "Hollow horn," and "loss of cud" and "wolf in the tail, are often used by people who don't know cattle diseases. They are often applied to digestive disturbances. But those so-called diseases have absolutely no scientific foundation.

And worst of all, the treatment prescribed for animals suffering from those so-called diseases, as applied locally to the horns or tail, is not only cruel and useless, but it may actually cause serious damage.

No, digestive troubles are usually brought about by improper feeding. They are due either to feeding too much or too little or not the right sort of stuff. Digestive troubles are usually due to poor quantity or poor quality feeding.

Over-feeding and lack of exercise before calving, it is claimed, predispose a cow toward milk fever. Now milk fever is a real important disease.

The exact cause of milk fever we don't know. There is considerable investigation going on now to try and find out the cause. The disease shows up shortly after calving. The cow than becomes paralyzed and goes off into a state of more or less unconsciousness. After that she may pass out altogether.--(As if interrupted) --- What say? ----- "What's the best treatment?"

Well, as a preventive --- and you know, they say"an ounce of prevention is worth a pound of cure" ---- as a preventive, I would recommend that you cut down the food supply of the cow during the dry period to a light ration of bran and oatmeal, supplemented with enough roughage with occasional feedings of silage or beet pulp. House the cow in clean, comfortable quarters. And give her a certain amount of exercise every day.

The treatment of milk fever by the inflation of the udder with air has greatly reduced the mortality

Speaking of the udder, any condition that interferes with the proper working of the udder or any quarter of it is a matter of concern. The specific condition known as garget or mastitis or mammitis, is probably responsible for most udder troubles.

Please remember, that the udder of a dairy cow is a highly-developed sensitive organ. It is easily subject to improper handling, which may cause more or less inflammation. But you can keep down those causes of mammitis by proper housing and handling. Infectious mammitis, on the other hand, is a specific infectious condition. It results from certain bacteria getting into one or more quarters of the udder and setting up inflammation.

The infection may spread from one cow to another until a large part of the herd is affected.---------(As if interrupted) "How?" ---"How does it get from one cow to another?"

Oh, the germs are usually carried from the diseased to the healthy cows on milking machines or on the hands of the milkers.

Infected cows should be separated from the rest of the herd and should be hand milked, if possible, by a separate milker. If that is not practical, milk the infected cows last and wash and disinfect your hands thoroughly when you get through.

Now then two of the most widely spread infectious diseases of dairy cows are tuberculosis and infectious abortion.

I guess you all know something about tuberculosis. Tuberculosis has probably been more studied than any other disease. Even so, if you count the effect of T-B on milk production, and the losses in meat food products as a result of the condemnation of carcasses or parts of carcasses of animals with T-B, that disease costs farmers of the United States $40,000,000 a year. However, tuberculosis has already been rooted out of thousands of herds and the progress being made by the use of the tuberculin test and the removal of affected animals in various States is downright gratifying.

Even more damaging than tuberculosis is the disease known as infectious or contagious abortion. But the job of controlling infectious abortion is one that takes special expert knowledge.

In fact, the dairyman can make no better investment than to hire a qualified veterinarian to treat sick animals, no matter what the disease.

By his special qualifications, the thoroughly trained veterinarian is in a position to "nip in the bud" outbreaks of infectious diseases; and by proper treatment to save valuable animals for the herd.

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ANNOUNCEMENT: Tomorrow our Farm Forum will discuss the control of production costs on the farm. That is a subject in which dairy farmers and all other farmers are concerned. Our next dairy meeting will be this time next Thursday. At that meeting another marketing specialist will outline the marketing of our two billion dollars' worth of dairy products.

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THE FARM FORUM

Friday, December 21, 1928.

NOT FOR PUBLICATION

Farm Economics Meeting No. 4: Control of Production Costs

ANNOUNCEMENT: If there is no other business to come before our Farm Forum, we will proceed with the discussion. Every farmer here is interested in cutting down the cost of production. This expert from the United States Department of Agriculture is going to tell us how we can control the costs ----

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In order to find out how costs can be controlled, let's see how they have been controlled. Here are a few examples.

A couple of years ago, a New York farmer friend of mine decided to expand his poultry business. The hatcheries up his way had been charging him 20 cents for March and April chicks of good stock.

Well, sir, he decided he would beat that. He decided to wait until after June when he could buy chicks for 10 cents each. To him, chicks were chicks. He figured that he could save money by buying them at half price. And he bought them.

Those he got were mixed quality; he could tell that. Then too, they were slow in developing, and they ate as much as good quality chicks. But that was not the worst of it. Those cheap late-pullets did not get around to laying until egg prices were going down. When they did start, they didn't lay near as many as my friend expected they would. He tells me that was a lesson to him. Hereafter he is going to stick to good stock, and he is not going to try to save money by buying cheap chicks.

On the other hand, I know of an Indiana farmer who depends on hogs for most of his income. He has paid an average of $50 a year just to have his hogs vaccinated against hog cholera and he hasn't lost a hog from cholera.

One of his neighbors refused to spend anything for innoculation. He said he didn't believe in it. He lost an average of 9 hogs a year, and a lot more of them didn't do much good. In other words, his hog losses amounted to much more than the cost of vaccination to the other farmer. We have the records of those two farmers. And that first, or vaccination farmer made $659 more over and above his costs of production than did the other one.

In this same hog section of Indiana, there is a group of farmers who have been buying an average of 1,400 pounds of tankage and 1 3/4 tons of middlings or shorts a farm each year. Another group of farmers has not been spending so much for this kind of feeds. They have bought only 100 pounds of tankage and 1/4 ton of middlings. That would look like quite a saving in outgo. But those farmers who bought enough of these feeds for well-balanced rations made about a $1000 more income above costs than those who bought sparingly of them. And the purchase of protein feeds had its share in the $1,000 larger income. Protein makes more pork.

You are beginning to get the drift, I see. But let's take another example. Here's the record from a sheep farm in an irrigated locality in Idaho. On this farm they cut 500 acres of alfalfa three times a year.

Three years ago, that farmer used a haying crew of 14 men. He used five mowers for cutting and two sulky rakes followed behind the mowers. After the hay was raked into windrows, seven men put the green hay into cocks. That crew cut, raked, and cocked about 40 acres a day.

The next year, however, that farmer figured out how he could cut the cost of haying and still keep up the same high quality of hay.

He used the same five mowers. But in place of the two sulky rakes, he had two side-delivery rakes follow the mowers. And he had those side-delivery rakes go around the field in opposite directions, so that one windrow was thrown on top of the other.

Now then, he had a man with a sulky rake come along and bunch the hay in the windrows. Do you get the idea? In other words, two men with side-delivery rakes and one man with a sulky rake did the work done the year before by seven hand cockers and two sulky rakes. He made a clear saving of six men, or $24 a day. In a year's time that saving amounted to about $900.

That's a case where production costs were cut by efficient use of labor.

I know of a Kansas farmer who cut the cost 24 cents a bushel on his 200 acre wheat crop by changing from the binder to the combine. Under the old way, the cost of binder twine, shocking, hauling bundles, threshing and delivering threshed grain to the elevator amounted to 32 cents a bushel. The next year with about the same yields, the cost of harvesting, threshing and delivering threshed grain to the elevator cost him 8 cents a bushel when he used a combine. There's your saving of 24 cents a bushel.

But I want to point out, as in the case of those chickens and hogs, the most economic production costs are not necessarily the lowest production costs. For example, in a group of 80-acre farms in Indiana the production costs of the most successful farms averaged during an eight-year period $498 more than on the least successful farms, but the value of the product was $1,159 more. The farms with the higher costs netted $661 more over and above costs of production than did those with lower costs. It takes money to make money.

Aside from a charge for the use of land, the big items in the cost of farm production are labor, feed, and power. They are the things which offer the biggest chances to control production costs. You can control those costs through the size of your business, through the yield of crops, through livestock production, and through efficient use of labor. Of course, there are other things. But figures show that on most farms which are better than the average in size, yield, livestock production, and efficient use of labor, the control of production costs has been effective.

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ANNOUNCEMENT: This time next week we will have something to say about the woods. But before we go into the woods, we are going to discuss several other problems. Monday we will talk about giving livestock to children, Tuesday we will consider poultry meat in the diet? Wednesday will be soils day and Thursday will be dairy day.

# # #

UNITED STATES DEPARTMENT OF AGRICULTURE
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THE FARM FORUM Monday, December 24, 1928.

NOT FOR PUBLICATION

Livestock Meeting No. 13: Livestock for Children

ANNOUNCEMENT: The Farm Forum will come to order! -- I know it is Christmas eve. Some of you already have Christmas in your bones. But I notice some of our members have that worried look. Here at the last minute, Christmas presents for the young folks are still on your minds. Some of us are solving those problems by giving livestock ---- What do you think about giving children livestock for Christmas, Mister Mac? ----------

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Well, there are a lot of things you can give children for Christmas. I've found out that; especially in the last few days. But it is not any easy matter to find gifts that just fit.

This Christmas, I'm doing just as I've done for several Christmases now. I'm giving my grandchildren what I used to give my children. I'm giving them well-bred young animals.

As the first Christmas started in a stable, it seems to me the gift fits the occasion. And then, too, giving animals helps me pull through financially. Usually giving a young animal involves only a moderate outlay.------- But bless the childrens' hearts, that is not the main thing!

My boys and girls always loved animals! They are like their daddy and granddaddy in that. I can remember when my Pa gave me a heifer calf for Christmas. I had a dog. And that dog, and that calf and I used to play together like three children.

But the fun the children get playing with animals is not what makes animals most valuable as gifts. Animals are gifts which become more valuable as time goes on. Not only that, they get the young folks interested in livestock and farming. They give the children valuable experience, early in life.

Then another thing, it takes many years to develop fine livestock, especially in the case of big animals such as cattle and horses. A lifetime is a short time to really accomplish anything outstanding in animal breeding; so it is important to begin early. Beginnings made in the teens are none too soon.

But the meanest man I know also gives his children animals for Christmas. He gives the younger members of his family weak and runty animals, with about three of their four feet in the grave. It's all right to let the children try to nurse such animals along but I don't believe in connecting such a practice with the Christmas spirit, even though with good care such animals may live and develop fairly well.

Why not give the boy or girl a thrifty, purebred pig, or lamb, or calf, or foal? Give them animals of real value. Give them animals that can be reasonably expected to respond to good management.

I said that man who gave his youngsters, runts and weaklings was the meanest man I know. But I know folks, a lot of them, otherwise respectable citizens, who do an even meaner trick. They give animals, thrifty, purebred animals, to their children, even as you and I. But when the animal is raised, and eventually sold, they just pocket the proceeds of the sale.

When Bobby's calf becomes popper's cow, and when Mary's pig is included in the general marketing of the farm hogs with no individual return to Mary-----

"How you going to keep them down on the farm, after they're done that way?" So let a gift remain a gift and be square with the young folks when their animals are sold.

Aside from their market value, animals have a certain appeal which develops an interest in the farm and farming. Put yourself in the boy's place. Would you leave a farm where you had part ownership in the livestock? With livestock, the children can look forward and take an interest in the young of that livestock. In time the offspring will mature. Finally, the gift you give tomorrow may become a herd or flock in a few years. In that way, a gift of livestock may be the tie which causes the farm to continue from father to son. -------(As if interrupted from audience) What's that? --- What was your question? -------"Suppose they don't want livestock for Christmas?"

Well, of course, in that case I wouldn't give it to them. And besides, you have to consider the animals as well as the boys and girls. Don't give animals to children whose interest in livestock is doubtful. Don't give animals to children who won't give them the care every living creature is entitled to.

But if you think the young folks generally are not interested in livestock, you are guessing --- and you miss your guess. A livestock man from the U. S. Department of Agriculture gave me a few figures on that.

He told me that in Sebastian County, Arkansas, about five years ago, 22 boys joined a club to buy and develop dairy calves. They bought the calves on credit. Of the 22 who started, 20 are still at it, all the original stock is paid for, and, together with the offspring, those boys now have $25,000 worth of livestock.

He told me another case, of a girl in Washington State. She noticed the "bummer" lambs which could not keep up with the flocks of sheep which passed her home on the way to the ranges. She took care of those bummer lambs and in three years, she developed a flock of 72 sheep. Now she is planning to get some ewes and improve and increase her flock still more.

That just shows you what can be done from small beginnings. Last year, the Department of Agriculture man told me ------- let's see where are those figures he gave me ------- I jotted them down somewhere ------- ah --- here they are.

He told me that young folks in livestock club work now own more than 120,000 cattle, sheep, and swine, not to mention nearly a million and a half poultry.

There are nearly 25,000 boys and 32,000 girls in poultry-club work. There are nearly 17,000 boys and about 6,000 girls in dairy-cattle clubs. There are more than 28,000 boys and 2,500 girls in pig clubs.

I could keep on giving you figures like that. But that is enough to show you that a good many youngsters in this country are interested in animals.

And if you expect to give your children animals, Christmas is a good time to do it. It is near the New Year. It is a convenient time to start a business account. Of course, there are other good times, such as birthdays, and the like --- anyway, as I said before, I am going to give my grandchildren a live and growing gift which will give joy and at the same time be the most practical thing I can give them.

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ANNOUNCEMENT: Tomorrow will be Poultry Day in our Farm Forum. Wednesday, we will discuss some crop or soil problem. Thursday will be dairy day, and Friday we will take a stroll through the woods and see what they mean to us. The next Livestock meeting will be this time next Monday.

# # #

UNITED STATES DEPARTMENT OF AGRICULTURE

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U. S. Department of Agriculture

THE FARM FORUM Tuesday, December 25, 1928

Poultry Meeting No. 13: Poultry Meat

Speaking Time: 8 Minutes.

ANNOUNCEMENT: I call this a real Christmas dinner!---I'm glad our Program Committee decided to celebrate the day with a Farm Forum dinner --- That turkey couldn't be beat ---- But now that you members have had to shove back from the table, to make way for the turkey, let's have a little talk ---- "Chick" Barnes suppose you make a few remarks on poultry ----------

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I agree with the Toastmaster, there. The turkey was good! Turkey is good meat. But while I let out my belt in praise of the turkey, as a poultryman, I can't forget the chickens ------- and the ducks, and the geese, and the squabs, and the guinea fowl.

Of course, turkey eating is not confined to Christmas and Thanksgiving. We do considerable business in turkeys the year round. For banquets, such as this, turkeys are popular at other times of the year. Then, too, turkeys are served a good bit on dining cars, and in hotels, and on steamboats.

Taken all in all, though, turkeys make less than 2 per cent of all the poultry kept in this country. But squabs and guinea fowl, of course, are kept in even smaller numbers; much smaller numbers than ducks and geese. And ducks and geese each make up less than 1 per cent of all our poultry.

But ducks are getting more popular. Young ducks or "green" ducks as they are called are mighty tender. The market for "green" ducks in and around New York is highly developed and has been for some time. They tell me, too, that the market for "green" ducks is spreading to all the bigger cities.

For the next two or three months, however, capons will be the popular market fowl. They are tender and have so much white meat that they are very popular with those who like choice chickens for roasting.

In fact, chickens generally seem to hold their own pretty well. In many families, however, they are a special treat for Sunday dinner. When the toastmaster called on me I thought I would just talk about chickens -------- but then some folks might misunderstand what kind of chickens I meant.

And when I smell that roast turkey there, I can't go back on turkey, so we'll just talk about poultry meat in general.

But before I get away from this turkey, I want to compliment the ladies who cooked it. Especially, do I want to thank those who made that delicious dressing.

That is the beauty about poultry --- there are so many good ways to fix the fixings. And you can make poultry meat up in so many different ways. It is one of the few things I know you can make up into salad for the dainty eaters or serve as a hearty meal to a man with big appetite, and they will both arise and call you blessed.

In fact, soups and broths made from poultry are so easily digested, it is the first thing we give the sick folks and children. Of course, you can't live by meat alone. It doesn't make a well-balanced diet. But there is very little tendency to use poultry too freely in the average meal.

Folks in this country eat only about a fifth as much poultry as they do beef or pork. But they eat more than they do mutton and lamb.

Potatoes, and bread, and other starchy foods may supply more energy and heat, but meat is a good thing to have for its proteins, and fats, and minerals. And another good thing about meat, including poultry, is that it makes folks want more of the cheaper starchy foods at the same time it provides important food elements in which starchy foods are lacking. Poultry meat doesn't have so much of those vitamins as some other foods, but it has a moderate supply ---------- What say?

"How does poultry meat compare with other meats?"

As you know from experience, poultry meat has a much bigger proportion of lean meat and less fat than most other meats. But I guess you were speaking about what the scientists say about the composition and food value compared to other kinds of meat.

Well, you don't have to worry about that, either dark or white poultry meat is just about the same in food value as lean beef or other kinds of lean meat.

But as one poultryman to another, let me give you a tip. The quality of poultry for table use depends on the fatness of the bird, and on the texture and flavor of the flesh. ----------

Now just wait a minute. I'm going to tell how to improve that quality. You can improve it by fattening. As all of you know, much of the poultry put on the market is in an unfinished and lean condition. When a bird is fat and the fat is well distributed through the flesh it gives the meat a richer flavor and makes it more tender.

Most men who go in for quality poultry meat, fatten with milk. The best grades of fattened chickens are often classed as "milk-fed" poultry. Then, remember too, that the younger the bird the more tender the flesh. And betweem males and females of the same age, the meat of the females is more tender.

But what I got up here to say is: that I wish you all A Merry Christmas. "May you all live long and prosper!"---- and eat more poultry meat!

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ANNOUNCEMENT: We expect to keep up our Farm Forum meetings all during the holidays. We'll usher in the New Year with a talk next Tuesday on certification work and its value. We might as well get started right. In the meantime, we will have meetings Wednesday, Thursday, Friday, and Monday.

# # #

UNITED STATES DEPARTMENT OF AGRICULTURE
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THE FARM FORUM Wednesday, December 26, 1928.

Crops and Soils Meeting No. 13: Uses of Farm Wastes.

Speaking Time: 8 minutes

ANNOUNCEMENT: The Farm Forum will be in order! ---- We are met today to hear a specialist from the Bureau of Chemistry and Soils of the U. S. Department of Agriculture ------- What is it you are going to talk about, Mr. Specialist? --- Oh, yes --- about the uses for farm waste----- Well, I guess we're all interested in that. I guess we all have stuff there's not much use for ------

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Farming has changed. But some folks don't seem to realize that, yet.

They know there's something the matter, but they don't know just what has hit them.

The fact is, we've gone through a great agricultural revolution!

Some of you here can remember when your farms were practically self-supporting. You lived at home on the farm. You supplied most of your needs from the farm itself. You sold only the surplus.

But that was then. Nowdays most of your farm products go to market. You buy many of the things you use ---- many of the things you used to produce --- or, at least, get in the neighborhood. Nowdays farming is run on a money basis, just like a factory.

In fact, folks are coming to realize that the farm is just one kind of factory run by sun power to make the materials from the air and soil into farm products. And more and more of those farm products are being used for things other than food.

As farming becomes more of a business, the importance of cutting down waste becomes more evident. As farmers put their farm business on a cash basis, they begin to look around to see what they have which may have a cash value.

In the old days, we never thought of such things as corn-stalks and corn cobs, and wheat and oat straw and oat hulls, having any value; except maybe a little for putting back on the land.

But it has been found that farm products have other uses than those we ordinarily think of. For instance, corn is converted into corn-starch, and corn oil and glucose. By certain methods of fermentation, corn is also converted into butanol, acetone, ethanol, and hydrogen which are used in

industry where corn as corn wouldn't have a look-in. In other words, the chemist and manufacturer have widened the market for the corn farmer.

However, since many of the things made from corn are not food products, since their food-value is not involved, how about corn stalks? Maybe these chemists and manufacturers can open up still wider markets for the corn farmer by paying him for his waste cornstalks. The United States Department of Agriculture showed years ago very clearly that good quality paper and fibre board can be made from corn stalks. However, the question as to whether paper and fibre board can be profitable made from cornstalks on a big scale has not yet been answered. Several firms are now making big scale experiments to find the answer.

Anyway, it is highly probable that as our pulp wood forests are used up, cornstalks and cereal straw will become more and more valuable for the manufacture of paper in the future.

There are many of you who remember when the piles of cottonseed around the cotton gins were considered a nuisance. They were an agricultural waste. But that was way back there. Nowdays, however, there are more than thirty commercial products made from cotton seed alone. No little part of the benefit from the use of that once waste product from the farm has come back to the cotton growers.

The bagasse or chrushed sugar cane was formerly also a waste product. It is now made into paper and fibre boards. That use of sugar cane bagasse widened the markets for the cane grower.

And then there is the case of the citrus fruit culls and waste products. A few years back, California fruit growers were paying about a dollar a ton to get such wastes hauled away and destroyed. The waste was apparent, but California fruit growers got the idea that it might not be necessary. They appealed to the United States Bureau of Chemistry.

As a result of that appeal for help to a Federal bureau, we now have a citrus by-products industry which produces such valuable by-products as citric acid, lemon and orange oil, pectin and other products, which last year reached a total value of about a million dollars.

In other words, the citrus wastes when delivered to the factory are now bringing the growers about twelve dollars a ton instead of costing them one dollar a ton to haul away.

This matter of farm wastes has become so important that the United States Bureau of Chemistry and Soils recently made an investigation to find out just how much of such waste there is.

The Bureau's figures show that there are about 100 million tons of cornstalks produced in the United States every year, and about 20 million tons of corncobs, and 18 million tons of cotton stalks. There are 115 million tons of cereal straws and more than two million tons of flax straw. There are

three million tons of oat hulls, nearly two million tons of cottonseed hulls, and a half million tons of sugar cane bagasse. Taken all in all, there are more than 260 million tons of agricultural wastes in this country for which little use has been found.

Finding use for this vast amount of waste will go far toward solving the problem of crop surpluses by widening the markets for farm products. When the six million farm factories of the United States are able, like other factories, to use wastes to make profitable by-products, the 260 million tons of farm products now going to waste on farms in this country every year, will bring farming nearer to a stabilized and prosperous condition.

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ANNOUNCEMENT: The next Farm Forum meeting will be tomorrow when we talk about the two billion dollar dairy business of this country. Our Farm Forum meetings will continue on into the new year, with, we hope, a bigger and better attendance.

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THE FARM FORUM

Thursday, December 27, 1928

NOT FOR PUBLICATION

Dairy Meeting No. 13: Marketing Our Milk

SPEAKING TIME: 9 Minutes.

ANNOUNCEMENT: Members of the Farm Forum will please find seats!-- We have a marketing specialist with us. He is from the United States Department of Agriculture. He is going to give us a general view of the marketing of milk throughout the United States ------- How much did you say we market, Mr. Specialist? ----- Oh, yes,I remember. Two billion dollars worth of milk. Those figures are too big for me, --- you tell us, Mr. Specialist -----

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As the Chairman says, our milk business is a big business.------ Let's each of us just start at his own farm.

Picture in your own mind, each of you, your own cows grazing on the green grass in the pasture or peacefully chewing first-class hay in your barn.

Now let your mind spread out over the neighborhood, Picture your neighbors' cows in their barns and in their pastures.

Keep on, taking in more and more territory. In your neighborhood, in your State, and out into neighboring States. Picture those cows from one end of this country to the other.

It is a beautiful sight. More than 4-1/2 million farms with nearly 22 million rural milk cows.

I say rural milk cows, because there are also about 1,200,000 town and city cows.

Now let's imagine it is milking time. On those 4-1/2 million farms the cows are milked twice each day. In a year's time, those millions of cows produce 120 billion pounds of milk. ----- But wait there, we're getting into too big figures. Let's divide that milk up a little bit. About one-fourth of it is run through farm separators. The cream from that fourth of our milk is taken to the creameries where it is made into creamery butter. There are nearly 4,000 of those creameries. They make a total of nearly

1-1/2 billion pounds of butter ----- but there we are getting into big figures again. It doesn't look like we can talk about our big milk business, without using big figures.

Anyway, the butter from those 4,000 creameries is shipped to markets all over the United States -- some of it is shipped in tubs each holding 62 pounds. The larger part of that butter, however, goes to market in those pound prints, some of which are cut into quarters. Those pound prints are wrapped in parchment paper in the form of consumer packages. -----

But let's go back to our farms. Ten per cent of the milk produced is made into butter on the farms. Most of it is used on the farms, too. But quite a good bit is sold to local retail stores. Ultimately some of it reaches renovated butter plants, where renovated or processed butter is made.

And about 3-1/2 per cent of all the milk produced is made into cheese. Practically all that cheese is made in factories. And nearly two thirds of all the cheese made in factories is made in the State of Wisconsin. From the factories, the cheese is taken to warehouses where it is paraffined and prepared for shipment. Or it is sold to processed cheese manufacturers to be blended and manufactured into processed cheese. The processed cheese is wrapped in tin foil and marketed in 5-pound loaves and similar tin-foil wrapped packages.

And then there is condensed and evaporated milk. Nearly 4 per cent of all the milk produced on our 4-1/2 million farms is manufactured into condensed and evaporated milk. That is, it goes through a process which takes out part of the water in milk. Condensed milk differs from evaporated milk in that it is sweetened by adding sugar. As you know, both condensed and evaporated milk are canned and sold throughout the country in retail stores.

But let's not forget ice cream. More than 3-1/2 per cent of all our milk is used in the manufacture of ice cream. That takes nearly 4-1/2 billion pounds of milk or the cream from that amount of milk. And the ice cream business is a growing business. On the average each person in the United States eats nearly three gallons of ice cream a year ------- (As if interrupted from audience) What ----- What's that? ------- "Hard to keep track of all those percentages," you say? ------- I see, you want to know how much is used as milk, and how much as milk products? -- Is that it? -----

Well, let's get at it in a little different way. I said we produced 120 billion pounds of milk a year in this country. That amounts to about 1,000 pounds for each person.

From that we have to take 33 pounds to feed the young calves on the farm and allow for 30 pounds being wasted either in handling on the farm

or in the manufacture and distribution of milk products. That's 63 pounds. That leaves really 937 pounds of milk for each individual in the country.

Of that the average person uses about 55.3 gallons or 475 pounds of milk and cream in fluid form. All right. That accounts for a good bit over half of that 937 pounds. That leaves 458 pounds or less than half for Mr. Average Person to eat in the form of products made from milk.

Roughly speaking, he eats 3/4 of that 458 pounds in the form of butter and 1/4 in all the other manufactured products; including cheese, condensed and evaporated milk, powdered milk and malted milk, milk chocolate, and ice cream ------- I didn't quite catch that? ---"The city man and the farmer?" No, that's true. They don't drink the same amount of milk. That old Average Citizen we were talking about uses about a pint of milk and cream in town, whereas, on farms, his average is two pints. -------

But here's an interesting thing about that: The milk we drink on farms is mostly raw milk, while the milk used in the cities, especially the big cities, is pasteurized. The farmer gets for his milk just about one-half the retail price paid by the city consumer. That may account for the fact that you farmers drink twice as much milk as your city friends. In other words, you get two pints of milk at the price the city man pays for one pint.

But the city demand for milk is increasing. It has increased tremendously in the last ten years. The quantity consumed by people who get their meals in hotels and restaurants has increased more than 60 per cent. And about one-fifth of all the butter and cheese produced in the United States is now eaten in hotels and restaurants in this country.

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ANNOUNCEMENT: That gives us a general view of our big dairy business. Now, this time next week we are going right back in the barn with the cows, and talk about one of our winter problems. Thursday, you know, is our dairy day in this Farm Forum. Monday is livestock day, and Tuesday is poultry day. We have meetings five times a week, Monday, Tuesday, Wednesday, Thursday and Friday.

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THE FARM FORUM (Regions 1, 2, and 3) Friday, December 28,1928

Farm Economics Meeting No. 131 Thinning the Farm Woods

ANNOUNCEMENT: The Farm Forum will be in order! --- It is getting close to the New Year. Some of yourare making your plans. And, of course, you don't want to forget the farm woods. Today our Farm Forester is going to tell how to thin the woods ------ Our Farm Forester swings a sharp ax ---- Go ahead Mr. Forester, we'll follow -----

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Thinning out the farm woods is just like thinning out the garden or the orchard. The idea is to thin out the crop so as to get the best development of a part rather than a poor development of the whole lot.

In the woods, by crowding at the beginning, you produce straight trees of high commercial quality. But if you let the crowding go on after the lower branches of the trees die, growth will stop or slow down; the farm woods will stagnate. Ordinarily, in from 15 to 20 years, dense young stands of trees reach a condition which makes cutting out some of the trees advisable -------- Beg pardon, did you want to ask a question? -------

This man here on the front seat wants to know how to tell when the woods need thinning.

Well, when there are dead or dying trees in the stand, and when there is a very dense interlocking crown cover, or when the stems are very slender in proportion to their height or when the trees apparently stop growing tall, the woods need thinning. But unless the condition of the stand makes earlier thinning desirable, the best practice is to put it off until the trees to be cut will be saleable and there will be enough of them to pay for the cutting.

After the first thinning, the thinning should be repeated as often as it is needed and as enough material accumulates to pay for the cost.

That's one of the good things about thinning. It can usually be made to pay its own way, or maybe yield some profit, at the same time it improves the stand of timber.

From the first thinnings, you will ordinarily get cord-wood and fence posts. Then from the later thinnings, you can get larger sized material.

If you have only a small woods, you can do your own thinning at odd times. In that case, the only cost would be your own labor. When you have to cut poles for some use on the farm, if you will use a little care in selecting the trees to be cut, you can do a crude job of thinning. ---------- (As if interrupted) Well, friend, what's your question? -------- "How much?" ----- You mean what proportion of the trees should be cut out? ---

Probably not more than from one-fifth to one-fourth of the trees should be cut out at a time. Of course, it is not possible to lay down definite rules, as to the amount of material to be removed, under all conditions.

In stands of fast-growing trees, such as cottonwood, and yellow poplar, and red gum and white and loblolly pines the woods can be opened up more than where the trees are slow-growers such as white oak, and sugar maple, and basswood.

In general, I'd say the openings shouldn't be so big that they won't close again within three to five years through the growth of the tree tops which are left. The extent to which the top of a stand of trees may be opened depends largely on the rate of growth of the trees and their needs for light. -----(As if interrupted) What say? --- "Which trees?"

Well, as a rule, I'd cut the least valuable ones first. The trees left standing after a thinning should, usually, be those which are the best shape, and the fastest growing, and those it seems will have the highest market value in the end.

Cut out the dead trees. Cut out the least valuable and slowest growing of those which are not as high as they should be and which will either be killed by shading out or live on only as stunted trees. And, of course, take out the insect infested and diseased trees of all kinds. It may be, that, in order to get a proper opening of the tops or crown canopy, you will have to cut some of the taller trees the tops of which get plenty of sunlight.

And here's another thing to remember about thinning. The condition of the soil has a lot to do with the health and vigor of the trees in the woods. The soil should be fresh, and soft, and loose, and free from a mat of grasses. With field crops, you get that condition by cultivation. In the woods, you have to get that condition by keeping the ground shaded and allowing a blanket of leaves and twigs to accumulate over the soil. So in making thinnings always keep all the trees needed for shading the ground.

The object of good management of the farm woods is always to get the woodland stocked with a full stand of trees of good quality, growing as fast as possible. You thin to promote the fast growth of the best trees. ---- (As if interrupted) Yes?----yes, I did say something like that.

Of course, that will depend on the market. If the material cut out is small and good only for a poor class of cordwood, it may not pay for the cutting. Remember, however, the increased growth and value of the trees left standing will offset that cost.

I'd consider the material taken out in thinnings as a net gain. Where the market is good, I know farmers who have done their thinning at a net profit of from 10 cents to $2 a cord. In one 8 acre woods of white pine in Connecticut, thinnings netted the owner $44.32 an acre.

And you can set it down as certain that thinning will pay for itself when the thinning takes out material suitable for posts, handle stock, hub stock, small piling or ties.

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ANNOUNCEMENT: This time next week we are going to look over the farm budget and the farm accounts. That will be a good way to start the New Year right. Monday, however, we will have our usual Farm Forum livestock meeting. And on New Year's day, our poultrymen have arranged to talk over the value of certification work. The other meeting will follow in the usual order.

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THE FARM FORUM (Regions 4 and 5) Friday, December 28, 1928

NOT FOR PUBLICATION

Forestry Meeting No. 6: National Forests and Water Supply

Speaking Time: 8-1/2 Minutes.

ANNOUNCEMENT: This Farm Forum meeting is going to be led by a Forest Ranger of the U. S. Forest Service. You know, one of the main objects in the creation of National Forests, they told us, was to benefit those of us who use water. Now then this ranger is going to tell us the connection between forests and water supply ---- Go ahead, Mr. Ranger -------

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Mr. Chairman, and fellow water users --------

From the water users' standpoint, why do we need forests?

We all recognize that we have to have water; to drink and to irrigate the farms; to say nothing of its uses to furnish power for light, trolley lines, and manufacturing plants. But where do the forests come in?

As you may know, in our eleven western States there are now more than 23 million acres under irrigation. Without water much of that land would be practically worthless. Even where dry farming is possible the values would be considerably cut down, if we didn't have water. In some parts of the West land without water is worth 50¢ to $1 an acre; while adjoining unimproved lands with water rights are valued at $500 to $1,000 or more an acre.

"Sure! we know that," you say, "But what has that got to do with the forests?"

Well, at least 85 per cent, and very likely more, of the water used to irrigate those lands comes from surface stream and lakes and underground sources which start in the mountains where the Federal Forests are located.

"Maybe so," you say, "but what of it?"

Of course, you know, forest cover tends to check erosion. The leaves and branches prevent the rain beating into the soil as it does in the open. The cover of the trees delays the melting of the snows. The upper layers of the forest soil act as a big sponge in taking up water and passing it on to the big reservoir of mineral soil beneath. And, finally, the surface cover of trees, logs, twigs, needles, and humus acts as a mechanical obstruction

to prevent rapid run-off. The surface run-off from forest and brush areas is less and more even at different times and seasons than that from similarly situated unforested areas.

Some of you water users know the importance of that -- that action of forest and brush cover in preventing erosion. You know, that water carrying a heavy load of eroded material boosts the cost of keeping up dams, and pipe lines, and flumes, and canals. Why, I've seen such water ruin valuable farm and orchard land by burying it under a mass of sand, and boulders, and debris. Soil erosion is today a growing menace to the nation.

--(As if interrupted) What? --Repeat that remark please? --- (Pause) Yes ---- What you say is true, erosion is a natural process -- So long as water flows over the surface of land, it will keep on carrying the mountains down to the sea. But that is normal erosion you are talking about. Man-made erosion is a very different thing.

When you take off the cover and expose the earth to the cutting power of water, until you get vegetation back on that land, every rainstorm washes down more and more soil.

You all know about some of the big forest fires we have to fight. Many of you may, on first thought, think of our fire fighting as merely an effort to save the timber.

But we are also fighting fire to save land and water. In a fire-swept forest, the soil is cleared of its protecting cover. It is exposed to the full wearing power of water. The burned surface is washed by every rain. The balance of nature that has existed for centuries is overthrown.

In southern California, for instance, a fire a few years ago destroyed the brush cover of a watershed a little more than a mile square. A careful study showed that in one year following the fire, 100,000 cubic yards of soil were washed down from that small area. Another 20,000 acre fire in the same region two years ago caused damage by erosion to ranches and irrigation systems totaling more than $500,000.

It is to prevent such fires from starting that we keep hundreds of Forest rangers, and guards, and lookouts, together with airplanes for scouting going fires. If we are to cut down the damage from erosion and keep up the water controlling and distributing power of the forest, we must keep down the number of man-caused fires. -----(As if interrupted) Yes? ---------"Not all in the forest," you say?

No. All the erosion is not in the forests. The forests are not the only places in which vegetative cover has been destroyed. In the grazing lands of many parts of the West the thinning and deterioration of the grasses and weeds and brush have been going on for decades. The reason is that the range has been overgrazed. The effects on soil and streamflow, however, are the same as the effects of deforestation by fire.

The vast stock ranges in the western National Forests, however, are also being protected for you water-users. The grazing of cattle and sheep on our ranges is regulated so the forage will be kept up or increased each year. Salting and open herding are practiced to prevent grasses and weeds being killed and the range laid open to more violent erosion.

Even in the cutting of timber, we keep the water-users on far-away ranches and farms in mind. On the National Forests destructive private logging methods are replaced by a system of cutting that makes sure the preservation of the forest cover and which makes sure future crops of timber. In many forest and brush areas no cutting is allowed. In badly burned areas, where there are no seed trees standing, we plant trees to reproduce the stand.

In other words, our National Forests are handled so as to insure the fullest possible protection and use of the water supply as well as the timber, forage, wild life, and other resources,

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ANNOUNCEMENT: This is the last Farm Forum meeting this week. But all members should be on hand next Monday. Monday is our day to talk livestock. Tuesday is our chicken day. This Farm Forum meets every day except Saturday and Sunday.

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UNITED STATES DEPARTMENT OF AGRICULTURE

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THE FARM FORUM (Region 1) Monday, December 31, 1928.

NOT FOR PUBLICATION

Livestock Meeting No. 14a: Standard Meat Cuts

SPEAKING TIME: 9 minutes.

ANNOUNCEMENT: The specialist who is going to talk today in our Farm Forum says we should have a standard system of cutting meats--- Why that is, and what good it will do us to have such standards, I will leave to him to tell you -------

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Let's eliminate all preliminaries, and get down to the question of cutting meat.

Not only do ways of cutting meat differ in different parts of the country, but cuts which are alike have different names.

Take Boston and Philadelphia, for example. The wholesale beef cut known as "chuck" in Boston includes the shoulder, the neck, and five ribs. But when you buy a "chuck" in Philadelphia, you get all that, plus the brisket and the shank.

On the other hand, a very common forequarter cut of lamb in Philadelphia, is "lamb wings" or the breast, shoulders, shank, neck, and 1 to 3 ribs. But a wholesaler would have a hard time selling "lamb wings" in Boston. In that city the cut which most nearly corresponds to the Philadelphia "wings" is simply called a "fore." But a "fore" which is an abbreviation for "forequarters" in Boston must include 5 ribs instead of from 1 to 3.

New York wholesalers cut a veal carcass first into foresaddles and hindsaddles, but in Boston the two chief cuts are the legs and bridles. The bridles include the forequarters and loins in one piece. ------- (As if interrupted from audience) What? ----- "Why shouldn't they have different ways of cutting?"

"Well, those variations in methods of cutting meat make it almost impossible to move cut meats from one market to another.

That, of course, means a narrow market. That means, they must be sold on the market for which they are cut, regardless of the supply and demand and prices on that market. Remember, when one market is over-supplied, there is often a shortage at other markets ------- Did I hear somebody say consumers at the over-supplied market would be in luck? --- Don't fool yourself, brother. As a general thing, consumers ultimately have to make up for the losses by the trade during such low-prices. Otherwise, the meat business couldn't survive. ------(As if interrupted) Yes? Over there on the left --- Did you have a question?

What? --- "What is the reason for all the different ways of cutting?"

Well, they are like Topsy, they "jes growed." They originated when different communities were more or less cut off from each other; when each community depended largely upon local sources for its meat supply ----- (As if interrupted) --- How's that? ----- Yes -------

Yes, that's true. Pork cutting is much more standardized than is the cutting of beef or lamb or veal. It is possible for a buyer in any section of the country or even in a foreign country, to order cuts of pork of certain weights on a standardized basis and be reasonably sure of the order being filled satisfactorily. And there is no doubt that the fact that pork cutting methods are practically the same throughout the country has done much to broaden the market for pork and to make pork an important item in international trade.

But beef cutting is more complicated and less standardized, than pork. Most beef carcasses are divided into sides and then, just before shipment, into fore and hindquarters; and from there on you begin to get big differences in cuts.

You know, a beef carcass has thirteen pairs of ribs. After it has been split into sides, each side carries thirteen ribs. Some markets demand that all thirteen be left on the forequarter. Others will use only quarters which have one rib on the hindquarter and twelve on the forequarter. Still others want three. The most common practice is to leave one rib on the hindquarter. It would be hard to sell such a hindquarter in Boston, however. The trade there demands three ribs, the loin, round and flank on the hindquarter.

After the beef reaches its destination, it is sold either in quarters or cut up into smaller parts, such as loins, ribs, chucks, rounds, and so forth. ------- (As if interrupted) "Wholesale or retail?"

I was speaking of wholesale cuts, but differences in cutting also go right on through the retail trade. If you go in a Middle-Western market and buy a piece of round steak, the chances are you will get all or a part of the rcut from the round, cut straing through across the bone.

In the North Atlantic states, however, round steaks are usually sold as top round. They include the muscles on the inside of the hind leg down to the bone. The outer side or bottom round is usually sold as a boneless cut for roasts. And sirloin steak in Boston is quite different from the cut of the same name in Chicago. ------ (As if interrupted) Yes? ----- What's that? ----- "What market would we use for the standard?"

Well, since the Chicago method of cutting meat is probably the most widely used, the Chicago system should probably be the basis for a standardized system. Any system, of course, would have to be carefully studied. But just think of the advantages a standard-way of cutting meat, with standard names for the cuts, would have.

Nation-wide standard cuts would permit prices being quoted on the same basis from all sections of the country, and sudden changes in wholesale market prices would be reduced to a minimum by the possibility of easier shipment from one market to another; in cases of scarcity or oversupply. That would even up supply and demand conditions, and stabilize prices.

Then, too, such standardization of cuts and cut names, would enable you livestock producers to plan your business so as to meet the probable demand for different kinds of meat.

Those standards would gradually educate consumers with regard to meats, and educate retailers as to the best ways of running retail markets. Waste, either through improper cutting or lack of knowledge on the part of the retailers, would be eliminated.

And not only would the retailers be able to economize through being able to compare their business with those in other parts of the country and so find out the best ways, but wholesalers and packing plants would also save on labor costs by having standards for meat cuts.

In fact, everybody concerned would benefit by the standardization of meat cuts and cutting. And all those benefits would work to the advantage of both producers and consumers.

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ANNOUNCEMENT: That closes the meeting of the Farm Forum today. But our poultry raising members will be on hand tomorrow, to start the New Year right. We have these meetings every day except Saturday and Sunday and will continue them right through the winter and early Spring at least.

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THE FARM FORUM Monday, December 31, 1928.

Livestock Meeting No. 14: Universal Standards.

Regions 2 and 3

Speaking Time: 8½ minutes.

ANNOUNCEMENT: This is the last Farm Forum meeting this year. We start the New Year tomorrow. Before next year gets here, however, we want to set some of you men right, in regard to livestock market standards. We have an expert from the U. S. Department of Agriculture, who is going to help us do it. --- Go ahead, Mr. Expert -----

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I was talking to Texas Joe Rodman the other day.

You may not know him, but he has been in the livestock business down near Fort Worth for years. I hadn't seen him for some time, and we got to talking about things in general; just swapping experiences, you know.

I happened to ask him if he was ever in a foreign country, where he couldn't understand the language.

"I'll say I have," he said, "I was on the Chicago livestock market the other day."

"How do you mean, 'You couldn't understand the language?" I asked.

"I just couldn't get the market lingo. It was just like going into a country where they speak a different dialect."

"Come off!" I protested, "you've been in the livestock business all your life."

"Yes," he agreed, "but I've been doing business at Fort Worth. I understand the language there. But you know yourself every market has a language more or less its own."

"Yes, that's right," I said, "but I didn't realize it was as bad as that. Of course, they do have different trade terms and names in different markets."

"And that's not the worst of it," Joe said. "They not only have different names for the same thing, but they have the same names for different things."

And, thinking it over, Joe is right. For example, Prime, and Choice, and Good are grade names on nearly all livestock markets. But they don't mean the same thing at the different markets. And they don't even mean the same thing at any one market at all seasons of the year.

A "Choice grade slaughter steer" is quite a different kind of animal on some of the far western markets than on the big middle-western markets where feedlot steers bring up the average.

That's the reason we need universal standards. Such trade terms should mean the same thing at all markets at all times. With universal standards, to get a working knowledge of what is going on on any market all you need is to know the standards and then read and listen to a reliable market report.

In other words, under a system of universal standards a "Choice grade slaughter steer" would be a "Choice grade slaughter steer", and would be known as such whether it was on the market at Portland, Oregon, on a Montana range, on the Omaha, Kansas City or Chicago markets, or Ft. Worth or Atlanta, or Jersey City or Baltimore.

The requirement for any particular grade would be the same everywhere. And to be called by that grade name, any steer would have to come up to the standard requirements. If "choice grade slaughter steers" were quoted at $14 a hundred, everyone seeing or hearing the report would understand what kind of steers were bringing that price. That would be true whether the information was in a commission man's market letter, or in a livestock paper, or in a trade journal, or in a Department of Agriculture report. And it would mean the same kind of steer whether the report came from the San Francisco, the Denver, the Chicago, or the Pittsburgh market.

Now then, let's see how that would help even things up. How it would give all stockmen a fair and equal chance.

As you all realize, a stockman who knows the various terms used on a livestock market and understands the exact significance of each term, can read reports from that market more understandingly than one who doesn't have that knowledge. He is better able to decide when conditions are right for shipping.

On the other hand, the man who doesn't know the trade language, is almost certain to get a lot of wrong ideas. One of the most common mistakes such stockmen make is to think their animals will bring more money than they actually will.

The stockman has my sympathy who reads a market report stating that "Choice grade steers are bringing from $14 to $15 a hundredweight and thinks his steers are "Choice Grade" only to find when they get to market, they are graded "Good" instead of "Choice" and sold from $1 to $2 a hundred lower than he expected.

Universal standards will help do away with that sort of thing. With universal standards, the man who knows a particular market will have no advantage over the newcomer.

But that is just one point where universal standards would even up market opportunities.

Being able to read and understand reports from any livestock market with equal ease, with universal standards you would be able to know which market was best at the time and ship to that market. In other words, universal standards put the small producer and the newcomer on the same footing with the big operator who knows many markets.

And you all know how squabbles come up about the grade of an animal, between buyers and sellers. Usually such arguments are won by the smoothest or the loudest talker. But with universal standards the grade could be determined according to the accepted standards and not on mere individual opinion or preference.

In fact, universal standards would be equally useful in handling stocker and feeder animals. You could know what you were getting. The man who stayed at home and did the plowing would be on the same basis as the one who spent time and money to do his own buying.

And this evening up process would extend into the dressed meat market, and on down to the individual meat dealer and his customer. Either meat or steers could be bought on order, with assurance that you would get what you ordered.

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ANNOUNCEMENT: Don't forget to start the New Year right, by attending all meetings of the Farm Forum. These meetings are held at this time every day of the week except Saturday and Sunday. Tomorrow is New Year Day. But it is also the day for our poultry meeting. It will be held as usual.

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THE FARM FORUM Monday, December 31, 1928.

Regions 4 and 5

Livestock Meeting No. 14d: Wool Scouring Tests.

Speaking Time: 8½ minutes.

ANNOUNCEMENT: The Farm Forum will be in order! --- I wonder how many of the sheep raisers here know the value of the wool they produce? -- A lot of us are at a disadvantage in selling wool just for that reason. Today, however, we have a marketing specialist of the U. S. Department of Agriculture with us. He will tell us something of how the value of wool is determined. Better still, he will tell us how to put ourselves in a better position to know the true value before we sell.

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Did any of you ever see any article made from wool that looked much like the wool on a sheep's back?

I'll venture to say you didn't.

In fact, wool as it is clipped from the sheep is not fit for manufacture. It has in it from 35 to 80 per cent of grease, and dirt, and other foreign matter.

Now, then let's see just what that means -- to the manufacturer and to you wool growers.

When the manufacturer buys a fleece of wool and gets it to the mill, the first thing he does is to have it sorted into different qualities or grades. When he has enough of one sort, say 3,000 pounds, he has it scoured.

That is, it is put through a washing process to get out the grease and dirt. It goes through three washes; one of warm water, soap, and alkali; the second of a milder solution of warm water and soap; and the third of warm water. It is then passed through a heated oven and dried.

But what has happened to that wool? We said we had 3,000 pounds. But when it comes out of the driers, we find we have only 1,500 pounds. Did that wool shrink? --- Not at all. There is just as much wool there as ever. The loss of weight is due to taking out the grease, and dirt, but that difference is what is known as "Shrinkage."

The shrinkage varies according to the amount of grease and dirt in the wool. Now if the manufacturer paid 52 cents per pound in the grease for that 3,000 pounds we were talking about, he would really pay $1.04 for the 1,500 pounds of wool which was really there, without counting freight and other expenses.

In other words, the value of a lot of wool depends upon the amount of clean wool it will produce for manufacturing purposes. That is as it should be.

As winds are stronger in the West than in the East, naturally more dirt collects in wool of sheep in the West than in the wool of those on grass in the East. That dirt makes a heavier fleece, and a larger loss when the wool is scoured.

Then, too, such foreign matter as burrs, and chaff, and seeds, and paint have a strong influence on the price offered for a lot of wool. The burs can't be washed out, and have to be taken out some other way. And some wool growers still use paint carelessly in branding. The buyer has to consider that. It means more work getting it out or loss of wool.

You growers should not only strive to produce a good grade of wool but you should also strive to keep it as free from foreign matter as possible; especially keep out things that can't be readily removed by scouring.

You see it is the foreign matter in wool that plays an important part in shrinkage which has a strong influence in governing the price offered the producer for his clip. Fine wools as a rule have more natural wool grease; so, of course, more dust or dirt will stick to each fiber. And the more grease and dirt the bigger the loss of weight or shrinkage.

The care and management of the flock, and the feed and seasonal variations may have a pronounced effect on the shrinkage.---- But here comes the rub!

It is only fair that wool prices should be based on shrinkage. But the shrinkage should be the shrinkage of the individual clip. In other words, you should be paid for the kind of wool you produce. But that is not always the case.

Buyers for woolen mills or big wool dealers often estimate the shrinkage. They usually have knowledge on which to base their estimates. From their experience with wool produced in a certain section of the country for a certain number of years, and from their knowledge of climatic conditions during the growing season, they are guided in making their estimates of the shrinkage of the wool before them. To cover any mistakes in judgement they usually add two or three per cent.

Well, you can see how uncertain and detrimental to wool improvement such a system is. Too often the estimate is based on the average shrinkage of the wool produced in a given territory, and not on the individual clip.---- (As if interrupted) Beg pardon ----- I didn't hear that. --------- "Have to take the buyer's word for it?"

Yes, that's true. The grower is at a disadvantage. Often he has no way of knowing that his clip grades or about what the shrinkage really is.

The better way would be for the grower to take representative samples of several lots of wool and have grading and scouring tests made.

By having tests made each consecutive year a grower should be able to gain knowledge from the reports received that would be of material aid

in placing him in a position to be a better judge of shrinkage, and assist him in learning more about the factors that determine the value of his wool.

There are a number of things which affect shrinkage, so he should have tests made each year. The tests one year may not apply the next. By keeping duplicates of the samples you forward for test, however, and making a careful study of the duplicates as to diameter of the fibre, and the grease and dirt content, and so forth, and comparing with the grade and shrinkage report, you would get a lot of useful knowedge of the quality of the wool you produce and the cause of variations in shrinkage from year to year --------- (As if interrupted) -- What? ------- "Where can you have those tests made?"

Why, the U. S. Department of Agriculture will make grading and scouring tests on wool samples. They will send you a scouring report on each sample they test. The tests are all conducted under standard conditions.

Their facilities are limited, however. So if you want to get your wool tested, better write and make reservations as early as practicable for the number of samples you will forward. When the Department's specialists get that advice, they will forward you special mailing sacks and specific instructions for drawing the samples.

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ANNOUNCEMENT: If you want any further information in regard to shrinkage and scouring tests, you can get it either through Station ---------- or by writing direct to the United States Department of Agriculture, at Washington, D. C. The meeting stands adjourned until tomorrow.